RESEARCH REPORT

INTENSIFICATION IN URBAN AREAS

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Intensification in Urban Areas

30 November 1998

By

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Intensification in Urban Areas

Gerald Daly & Richard Milgrom

This report examines the issue of urban intensification in order to deal with population growth pressures and sprawl. Intensification (also referred to as revitalization or reurbanization) is a counter-sprawl concept intended to slow the trend toward rampant development of greenfield sites on the urban fringe. Recent studies have found that an intensified development form could result in at least a 25% reduction in infrastructure costs and a 40% savings in land consumption. Canadian cities need to encourage mixed-use intensification -- including both new jobs and new housing -- in order to assure efficient public transit, to accommodate changing populations, and to ensure sufficient jobs and population to maintain vibrant urban centres.

Computer visualization is employed in this study to project (in "picture" form) the size, shape, location and appearance of proposed developments and their associated density implications. This technology, which combines geographic information systems and computer-aided design software, is used to illustrate the impacts of intensification on neighbourhoods and the potential visual effects of projects that have not yet been built.

This report demonstrates that:

- Residential and mixed-use intensification is already occurring in some Canadian cities;
- Infill and intensification may be (and have been) effectively employed to increase the stock of affordable housing and to revitalize urban centres; and
- Governments and housing providers must re-think the basis for regulatory controls, rigid building and zoning codes, as well as planning mechanisms which impede the production of low-cost housing;
- Intensification has been achieved by a variety of measures; these include design guidelines in lieu of outdated zoning controls, as-of-right zoning to reduce time delays and processing costs, live/work spaces to promote the provision of both residences and jobs in the city, and the use of density bonuses to encourage concentrated development in key locations (such as transit nodes and on major arterials) where revitalization is desirable.

Densification des zones urbaines

Gerald Daly et Richard Milgrom

Ce rapport traite de la densification urbaine comme moyen d'absorber la croissance de la population en évitant l'étalement urbain. La densification, également appelée revitalisation ou réurbanisation, est un concept qui a pour but de ralentir la tendance à construire de nouvelles habitations sur des emplacements inoccupés à la périphérie des villes. Selon des études récentes, la densification peut réduire d'au moins 25 p. 100 les coûts d'infrastructure et diminuer de 40 p. 100 l'occupation des terres. Il est nécessaire d'encourager la densification mixte - comprenant la création de logements et d'emplois - dans les villes canadiennes, afin d'assurer l'efficacité des transports publics, de suivre l'évolution de la population et de maintenir la vitalité des centres urbains.

Le rapport utilise une technique de visualisation informatique afin de présenter sous forme d'images la taille, la forme, le lieu et l'aspect de certains projets d'aménagement, de même que les conséquences de ces projets sur la densité de la population. Cette technique, qui combine des systèmes d'information géographique et de conception assistée par ordinateur, illustre les répercussions de la densification sur certains quartiers et les effets possibles de projets qui n'ont pas encore été réalisés.

Le rapport démontre que :

- la densification résidentielle et mixte est déjà en cours dans certaines villes canadiennes;
- la construction sur des terrains intercalaires et la densification ont été et peuvent être utilisés efficacement pour augmenter le nombre de logements à prix modique et revitaliser les centres urbains;
- les gouvernements et fournisseurs de logements doivent revoir les principes de réglementation, assouplir les codes du bâtiment et zonage et éliminer les mécanismes de planification qui empêchent la production de logements à prix modique;
- diverses mesures peuvent favoriser la densification urbaine, en particulier le remplacement de règlements de zonage désuets par de simples directives de conception, la mise en place d'un système de zonage basé sur le droit afin de réduire les retards et les coûts de traitement, l'aménagement d'espaces qui combinent des lieux de travail et de résidence à l'intérieur des villes, et l'octroi de primes à la densité afin d'encourager la revitalisation de secteurs clés, comme les centres de transport et les grandes artères.

OVERVIEW

This report examines the issue of urban intensification in order to deal with population growth pressures and sprawl. An examination of intensification projects in the Toronto region, sometimes referred to as the Greater Toronto Area (GTA), supports this research. The focus, however, is on the City (as amalgamated on January 1, 1998) and the existing built-up area, which is substantially smaller than the GTA, inasmuch as the growth pressures evident in this urban region make it a suitable proxy for other urban areas in Canada which are subject to similar trends. The context for the project is introduced through an analysis of recent population, housing, employment, transportation, and development trends. Public policy and regulations, private development decisions, and urban form are also taken into account. The project aims at projecting the implications of growth in terms of built form, land consumption, infrastructure, and the distribution of housing. The final section of the report highlights recommendations and conclusions.

One of the novel aspects of this study is the use of computer visualization to project images of the size, shape, location and appearance of proposed developments and their associated density implications. This technology, which is essentially the marriage of geographic information system and computer-aided design software, is predicated on the use of existing data bases from land registry information, property maps, and planning/urban design data on the built form. Computer visualization is used to illustrate the impacts of intensification on neighbourhoods and the potential visual effects of projects that have not yet been built.

The heart of this study is intensification of both residential and mixed-use neighbourhoods. Intensification, revitalization or reurbanization is a counter-sprawl concept intended to halt or slow the trend toward rampant development of greenfield sites on the urban fringe. Sprawl is costly in economic, social, and environmental terms. The postwar pattern of suburban or exurban development (three units per acre or about eight per hectare) cannot be sustained indefinitely. Low density development cannot support transit; it leads to more cars and longer trips; it requires more miles of roads, curbs, gutters and sidewalks, as well as sewer, hydro, telephone and water lines. Municipal services must be delivered over an ever-growing region. Recent studies have found that an intensified development form would result in at least a 25% savings in infrastructure costs and more than a 40% savings in land consumption. It could lead as well to greater use of the public transit system, which requires increased ridership to counteract cutbacks in government subsidies.

This study demonstrates that:

- Residential and mixed-use intensification is already occurring in the city;
- Infill and intensification may be (and have been) effectively employed to increase the stock of affordable housing; and

- Governments and housing providers must re-think the basis for regulatory controls, rigid building and zoning codes, as well as planning mechanisms which impede the production of low-cost housing.

While much of the discussion about intensification is prospective, it is already a fact of urban life. Various sections of Canadian cities have been intensified throughout the postwar era. During the 1991-1996 period, for example, more than half of the census tracts in the City of Toronto experienced net population growth. This phenomenon has been encouraged by a variety of municipal policies and plans. The City's Official Plan explicitly encourages intensification and several projects are being planned or developed toward this goal. In recent years the planning and housing departments of the City have helped to facilitate the construction of 1,000 new units of non-profit and social housing annually. Because funding for social housing programs is no longer readily available, however, there is a pressing need for governments, the private sector, and non-profit organizations to work together to produce affordable housing.

The Central Area of the City of Toronto is already built out to a density (7100 people per square kilometer) which supports public transit; in fact, two-thirds of trips in this urban core are by transit. However, transit ridership across the city and region has declined recently, and by adding density to both the urban core and the inner suburbs, demand for transit will increase. Intensification in central areas is likely to take the form of a few large projects, like the railway lands and the West Don Lands, as well as lofts, conversions from office, or commercial or industrial uses, small infill projects, and main streets developments along subway and bus lines.

Densities outside of the Central Area are less than half those of the core, and these parts of the City present many opportunities for intensification: through accessory apartments or granny flats, basement or accessory apartments, residential units built on top of retail stores, shared housing, conversion of existing commercial or industrial buildings, and other examples of infill which do not add (or only slightly add) to the existing "footprint" of urban development. Intensification projects have begun to appear with regularity in cities and inner suburbs on the edge of urban areas. For example, in North York, where the Official Plan specifically endorses intensification, more intense development along arterials, close to the subway stations, and around the downtown core is being encouraged.

Cities need to encourage mixed-use intensification or reurbanization in order to ensure sufficient jobs and population to maintain vibrant centres. Although there are more than one-half million jobs in the City of Toronto, each year some industries vacant the urban core to relocate in the suburbs (where facilities may be newer and taxes lower) or to move to another country. Moreover, the City must continually renew itself to maintain its population base. In the recent past about 50,000 people, mostly young couples with children, moved out of the City of Toronto each year. This flow was matched by an influx of over 50,000 immigrants and migrants from elsewhere in Canada. As a result, most of the *net* population growth in the region is occurring on the urban fringe and in the suburbs. To maintain its economy and its reputation as a highly desirable place to live and work, the City must create both new jobs and new housing. In order to do so it has, in the past few years, started initiatives such as "the Kings" (districts without rigid zoning controls), in order to attract investment and to encourage live/work buildings and mixed-use reurbanization. These efforts have achieved early success, but a great deal more must be done to ensure that adequate housing and job opportunities exist for future residents.

The greatest demand for shelter is from immigrants, seniors, young singles, empty nesters, and households led by women with young children. It is likely that the needs of relatively well-off empty nesters and young couples will be met by the private condominium market (which is responsible for a significant amount of urban intensification, more than 3,000 new units per year over the past decade). The remainder of city dwellers, however, will continue to require affordable rental housing close to work and urban services. This necessitates some involvement by government, though it is generally acknowledged that the days of massive public housing projects are long past. Governments may participate by facilitating development permit processing, by forming partnerships that include private developers and non-profits, by providing land, and by assisting with financing.

It is essential to add to existing housing stock and to increase the range of options in order to meet the needs of changing populations; examples include providing townhouses and apartment condominiums for first-time owners, offering housing options for seniors who vacate low density single family homes but prefer to remain close to their old neighbourhoods; preserving the supply of low-rent housing for low-income tenants; and increasing rental stock through the creation of second suites and accessory apartments.

Land supply is an important issue as land costs and site remediation expenses may be quite high in urban areas. Estimates from area planning offices, however, indicate that the residential land inventory in the City can accommodate up to 265,000 housing units. A report on the urban region concluded that all projected residential and commercial growth over a 20-year period can be located on just 7% of the land area in the City.

A few cautionary notes on residential and mixed-use intensification or reurbanization :

- Although there is a substantial opportunity for the City to intensify, it is unlikely that all growth will occur within the existing built-up urban area. During the 1991-1996 period, the City accommodated 28% of the total regional growth; this figure could grow considerably if proactive intensification efforts receive political support.

- Intensification will require some flexibility and relaxation of rigid zoning and building regulations.

- In order for intensification to succeed, some standards (like parking) must be modified, particularly for projects in the urban core, where relatively few people own cars, and in locations near subway stations.

- Neighbourhood opposition is likely; streamlining of approvals processes may be required to ensure that opposition does not create undue, costly delays.

- Most new development in the City consists of condominiums and lofts for young people and empty nesters. Most of the prospective demand for urban residences, however, is from low income renters who need affordable units close to work and services. Hence there is an important niche to fill which is not being addressed by the private development sector.

- There are many urban design and physical planning issues associated with intensification: these include building heights, building envelopes and configurations, lighting, open space, "fit" with existing neighbourhoods, and preservation of historic street frontages. In the drive to develop attractive infill housing, however, planners must not lose sight of crucial social, equity, and access issues, and the need to provide affordable rental housing.

Inner city urbanization presumes adequate infrastructure and reasonable development conditions. Excessive site remediation costs can negate the advantages of infill on some properties. Central city land is expensive and difficult to assemble. Moreover, large parcels are scarce and small. Scattered site development (though recommended because it reduces the risk of opposition) is expensive, difficult to replicate, and does not enjoy economies of scale. Projects in downtown areas are subject to considerable scrutiny, a demanding planning approvals process, and may encounter resistance from preservationists.

When push comes to shove, one of the key questions about reurbanization initiatives is "Who pays?" Benefits may be felt across the region, but if the costs must be borne solely by municipalities, then local politicians may balk at intensification initiatives which, for example, make them unpopular with some existing constituents or which require capital funding for infrastructure. What, then, can local governments do to foster reurbanization and to promote the related goal of affordable housing while minimizing the probability of opposition?

Governments can promote intensification through such zoning and planning changes as:

- Zoning controls can be relaxed, in many cases.
- Mixed-use zoning can be employed to ensure urban vitality, to place uses close to one another, and to encourage reliance on transit and non-motorized transportation.
- Modest density bonuses can be employed to ensure the concentration of development in key locations where intensification is desirable.
- A contextual approach to zoning on a block-by-block and site specific basis allows property owners or developers to respond to the particular requirements of the site and encourages design freedom.
- Design guidelines are preferable to rigid zoning by-laws; guidelines should deal with total density rather than trying to establish and regulate all uses within buildings.
- As-of-right zoning allows property owners some latitude (within design guidelines) and saves them the time, cost and commitment necessary to secure variances that would otherwise be required.

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- Significant increases in density for residential and mixed-use developments can be permitted near transit nodes and on wider streets.
- Permitted uses for residential buildings should include live/work spaces such as home offices, studios, and accessory uses.
- Along major arterials ("Main Streets") development may be permitted at three times coverage; to permit residential on top of retail to increase densities along transit routes.
- Roadway width can be narrowed in some circumstances to place houses nearer the street, to increase density, discourage speeding, reduce travel distances, and to provide more people to support transit.

To ensure adequate housing supply governments can:

- Provide surplus lands for affordable housing and urban intensification.
- Engage in partnerships with non-profit organizations and the private sector to produce affordable housing.
- Preserve the existing supply of low-rent housing for low-income tenants.
- Legalize second suites, accessory apartments, basement units that meet health and safety standards, and the use of extra bedrooms by empty nesters to rent out to tenants.
- Reduce excessive or inappropriate housing standards, which reflect a dated notion of the nuclear family.
- Ensure that development charges reflect the true costs of sprawl.

To alleviate problems with parking, governments can:

- Reduce parking standards as much as possible, in keeping with locational context and need, to encourage intensification projects and to discourage excessive use of automobiles, particularly in downtown areas.
- Exempt small sites and heritage properties from requirements for parking, loading, amenity space, and site plan control.
- Cooperate with the private sector to discourage parking downtown, to reduce surface parking lots, to redirect subsidies for free parking to transit, to lobby for the continuation of transit subsidies, to integrate transit systems, and to encourage employees to use transit.

Discussions about urban revitalization and intensification should not centre on issues of density, but should concentrate on how the city and the neighbourhood will look and feel and how the needs of different groups may be accommodated. This is the reason behind this study's emphasis on computer visualization which allows residents to assess the potential impact and appearance of new developments in the early stages of the planning, design and consultation processes.

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INTRODUCTION

A number of reports have pointed out the potential benefits of intensification (adding both residences and employment in a number of "mixed-use" formats) within existing built-up urban areas. This phenomenon often is referred to as revitalization or reurbanization.[1] This study attempts to build on earlier work by examining the nature of intensification projects in the city, their impact on the urban fabric, and their potential ramifications. Newly developed computer software was used in this study to "visualize" the physical and aesthetic impacts of intensification projects in several neighbourhoods. These techniques hold considerable promise as they have the potential of being available to all citizens through municipal planning offices or on the internet, thus allowing residents to visualize the bulk, height, coverage and aesthetic impact of projects at the very beginning of the planning and approvals processes.

The prospects for urban intensification in Canadian cities are promising. In fact, the process is well underway in many municipalities. In Toronto, which is used as an example in this report, there are a significant number of recent intensification initiatives in many parts of the city. Most are residential but a number involve commercial uses as well, and some have been built over retail along main streets. The Toronto planning and housing departments have helped to make possible the construction of 20,000 new units of non-profit housing over the past two decades. Section 11 of the City's Official Plan explicitly recognizes a responsibility to encourage intensification:

> Within the broader regional context, Council's goal is to promote an environmentally-sensitive approach to development throughout the Greater Toronto Area in order to reduce the rate of urban development of agricultural lands and natural areas, curb urban sprawl, reduce dependency on the use of the automobile, improve energy efficiency and make better use of existing public infrastructure (such as transit lines, water and sewage facilities, schools and hospitals). To this end, it is the policy of Council, subject to due consideration of neighbourhood compatibility, to promote the more intensive development of the existing urban area, particularly through the process of residential intensification in the city. Further, it is Council's policy to support the appropriate intensification of commercial development throughout the Greater Toronto Area in nodes and centres which are well-served by public transit, without impacting negatively

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[1] Urban intensification is a naturally occurring phenomenon. Driven by market demand it takes the form of residential condominiums and retail/commercial developments. This report, however, deals with another form of intensification: those non-condominium, mixed-use and residential projects, initiated by public, private or non-profit sectors, which are typically "infill" and which require either public intervention or certain variances in the planning process. The emphasis in this report is on infill housing projects because a key element of purposeful intensification is to provide housing for city dwellers whose needs are not addressed by market housing.

An Overview of the Official Plan elaborates on this policy by stating:

> ...intensification means directing future growth to the already urbanized parts of the region and encouraging, within this urbanized zone, a better mix or balance of homes and jobs in local areas of planned growth...Given that the City is a relatively job-rich municipality, the Official Plan puts particular emphasis on the residential side of the intensification equation to better balance the opportunities for people to both work and live locally, within the City...A primary theme of the Official Plan is the need to put in place and pursue policies that reinforce central city vitality...

Moreover, in recent years the Mayor, City Council and planners worked together to implement policies of mixed-use with virtually no restrictive zoning covenants in two areas of the City, King-Spadina and King-Parliament, in order to encourage job creation and revitalization. A considerable number of live-work developments have been approved in recent years as an incentive for residents (and jobs) to remain in the downtown core. As a consequence, the population of Toronto has grown steadily during the 1980s and 1990s. Most of the region's population increase, however, is on the urban fringe or in the suburbs, prompting concerns because of the enormous costs of sprawl, the rapid development of greenfield sites, environmental problems, and the possibility of continuing job losses from the urban core to the suburbs. Accordingly, a number of research studies have been commissioned by various levels of government in order to find ways to encourage intensified development within the existing built-up urban area.

CONTEXT

A considerable amount of research has been conducted on issues related to urban sprawl and to residential and mixed-use intensification in urban areas. Most works in this area either document the costs of sprawl or they are polemical in style, decrying the proliferation of automobile-dependent suburbs; generally, however, they do not offer substantive or realistic alternatives. Many of those critical of prevailing development patterns advocate various forms of new urbanist communities, but these are usually located on greenfield sites; they do nothing to intensify existing urban areas. Moreover, the New Urbanism movement has been criticized for failing to provide either affordable housing or communities which accommodate a diverse mix of households. It does, however, help to remind us of the need for compact communities, a hierarchy of streets and lanes, and the necessity of putting the pedestrian and transit-oriented development ahead of the car, especially in urban neighbourhoods.

Other studies deal with specific issues such as ways to achieve social housing in the face of community opposition. The thrust of such work is that future social housing development in the city should consist of small, infill projects on scattered sites, where existing residents are actively involved in the planning process in order to minimize conflicts and to ensure compatibility (City of Toronto Planning Advisory Committee, 1991). A few reports have sought to document the effects of social housing on existing neighbourhoods. Ekos Consultants, in studies of North Bay, Ottawa and Toronto neighbourhoods, concluded "...categorically that non-profit housing projects had no overall negative influences on the property values of the neighbouring property." (Ekos, 1989, p. 56) A 1993 study (Hill et al.) found that most people in a variety of neighbourhoods were not even aware of the presence of supportive (sponsored) housing projects in their midst.

Nevertheless, existing residents do have concerns; these fears or perceptions may stem from experience with large public housing projects of earlier decades. Lewinberg (1984) cites some of the issues raised by prospective neighbours of social housing: property upkeep, changes in social class and tenancy, physical change to the character of the neighbourhood, parking and traffic, privacy and open space conflicts, overcrowding, and potential losses in property values. Lewinberg found that intensification was more successful in areas where residents were familiar with the process; he recommended, therefore, a gradual, incremental approach coupled with "conversion performance standards" that are neighbourhood specific (Lewinberg, 1984, p. 79).

A study on the issue of neighbourhood opposition was undertaken by the legal firm of Fraser & Beatty. They concluded that "The *Planning Act* is restricted to dealing with issues relating to the proposed use of land *NOT* the persons using that land or individual or personal characteristics." (Fraser & Beatty, p. 1) Questions concerning a user's background, income, disability or other personal characteristics are not valid considerations with respect to Official Plan approvals or zoning approvals under the Planning Act. Moreover, boards, commissions and other bodies charged with making planning decisions are not permitted to ask such questions as they represent a violation of Section 15 of the Canadian Charter of Rights and Freedom. The study by Fraser & Beatty also documented several cases which underscore that "the municipality should be supported in its efforts to fulfill the needs of all citizens of the City," and low income housing projects, even if they present some problems for existing residents, can be deemed appropriate when they are "...based on good planning principles, [are] in conformity with Official Plan policies, and [are] in the interests of the general public."

Nevertheless, it is common for neighbourhood groups to appeal intensification projects to public officials or to quasi-judicial bodies like the Ontario Municipal Board. This remains one of the major difficulties around the issue of intensification: appeals are common, time consuming, and costly.

Several studies, completed in the early 1990s, examine the specific issues presented by the City of Toronto's Main Streets intensification program. This planning concept was predicated on the notion that arterial roads possessed "...infrastructure for residential and mixed-use intensification and could absorb a significant amount of new residential population and a variety of other uses through new development, converting vacant space and/or adding to existing buildings." (Berridge Lewinberg Greenberg Ltd. in association with Steven Fong Architect, 1991, p. 1).

Related studies (Marshall Macklin Monahan, 1990; Hemson & Baird/Sampson, 1990) concluded that municipal regulations relating to parking, setbacks, lot coverage, and public amenities requirements impose significant physical and economic barriers to intensification. Marshall Macklin Monahan recommended that residential parking standards be reduced substantially to .45 spaces per unit for small apartments and to .73 spaces per unit for apartments of two bedrooms or more, with a suggested guideline of .12 spaces per unit (or less) for visitor parking. All of the studies concur that parking requirements, particularly in the urban core and around subway stations, can be reduced from current standards (usually 1.25 spaces per unit) and that deregulation of land use (combined with such incentives as reduced parking requirements) be employed to encourage intensification.

The Hemson/Baird-Sampson and Berridge Lewinberg Greenberg/Fong studies also expressed concern about the probability of large scale intensification (such as long slab buildings with monolithic facades and single points of entry) undermining the scale and character of existing frontages which possess considerable architectural character and articulation. Design reviews completed in several cities (including San Francisco, Philadelphia and Toronto) suggest the need for urban design controls to deal with the problem of assembly of sites resulting in replacement of existing buildings by large, bulky projects which ignore the urban fabric or context and fail to "fit" both horizontally and vertically (Allan B. Jacobs 1978, Chapters 8 and 9).

The Main Streets studies also recommended that small lots with frontages of 12m or less be exempted from certain requirements, like parking, and that intensification be allowed "as of right." At a larger scale, consultants suggested that frontages up to 25m in width be permitted but that urban design controls are needed to ensure compatibility and articulation of the street frontage. These reports point out that gross density is not a good measure or means of regulating building bulk and form. They recommend that three times coverage be permitted along main streets as-of-right (with higher densities permitted in certain cases) and that built form and bulk be dealt with using a flexible building envelope.

RECENT TRENDS AFFECTING INTENSIFICATION

In order to assess the probability of intensification occurring within existing urban areas, we have examined recent trends in the Toronto region; these include governance and planning, population (to ascertain who is moving into or out of the city), housing, employment, transportation, and infrastructure/development costs.

Governance and Planning[2]

Recent trends in Toronto, as in other Canadian cities, include devolution of authority for urban affairs to lower levels of government; more responsibility is being placed on municipal shoulders with respect to taxation, planning, housing and development. Other changes include giving local authorities more latitude with respect to development charges. The net effect of these shifts is that older, urbanized municipalities may, particularly in terms of taxation levels, be at a competitive disadvantage with newer suburbs. However, if development charges are revised such that they more truly reflect the total costs of development and sprawl, this could work to the advantage of inner areas like Toronto.

Almost three-quarters of recent growth in the urban region has been on the urban fringe, much of it on greenfield sites. An awareness is taking hold, however, of the need to stem sprawl. Most citizens are now cognizant of increasing problems with car and truck traffic, manifest in traffic congestion, longer commutes, increased air pollution and smog alerts. Partly as a result of these trends, the city's population is growing: from 1991 through 1996 Toronto grew by 110,000 people, exceeding projections by 20%, and more than half of the city's census tracts increased in population. Most of this growth is in the Central Area, as a consequence of residential and mixed-use intensification, which was aided by new planning initiatives. Changes occurring in urban planning include the relaxation of zoning and other rigid building controls in certain districts of the city in order to attract investment, jobs and new residents. Further steps in this direction are needed to enable central areas to grow and to intensify, to make better use of existing infrastructure, to reduce the extent of commutation into the city from the fringes, and to increase transit ridership.

In terms of housing, a substantial part of the city's growth during the 1980's and early 1990's was attributable to social housing provision by a combination of public sector and non-profit providers. Most recently, however, social housing production has virtually dried up. It is vitally important to restart this sector because the need for affordable housing in the city is growing by at least 4,000 units each year; yet the private sector produces only a handful of apartments. The result of lack of supply, coupled with declining incomes for renters, has been an extremely tight housing market, doubling up, and a proliferation of hostels and emergency shelters to deal with homeless people and what now appears to be a permanent shortage of affordable housing.

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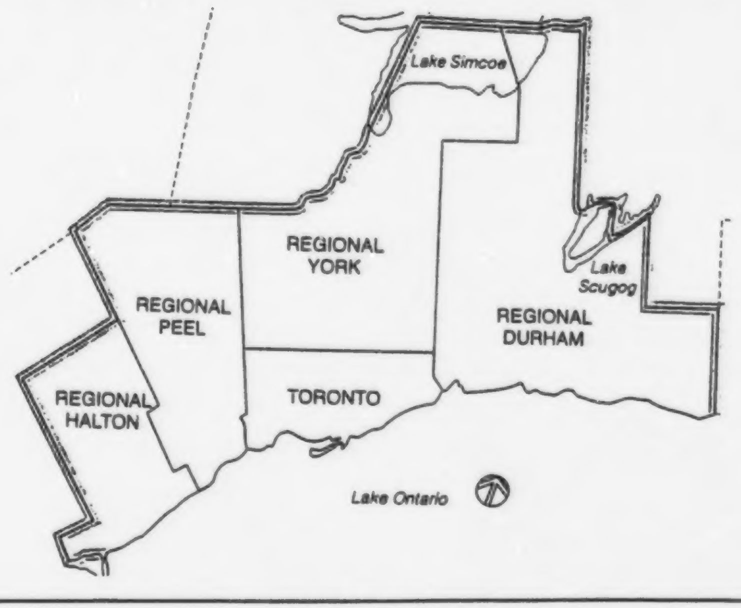
[2] The act or manner of governing.

Population

By 1996 the GTA population reached 4.63 million and the amalgamated city of Toronto (formerly Metro) 2.4 million. The population increase in the GTA represented about one-quarter of growth in Canada and almost 60% of Ontario's total. It is estimated that the population in the GTA will continue to increase to 5.2 million (1.9 million households) in 2001 and 6.0 million (2.2 million households) in 2011.[3]

Figure 1:
The GTA and Toronto



Source: Metro Planning , Housing Patterns and Prospects in Metro. 1996, p 7

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[3] Similar trends are evident in other Canadian cities: Vancouver grew by 230,000, to 1.83 million, between 1991 and 1997; Quebec City from 645,000 to 672,000 during the same period; Moncton from 110,000 to 115,000 between 1995 and 1997; and Ottawa from 719,000 to 745,000 between 1995 and 1997.

Surprisingly, growth in all parts of the GTA (except Toronto) during the period 1991-1996 was below projections. Toronto accounted for 28% of all growth in the region.

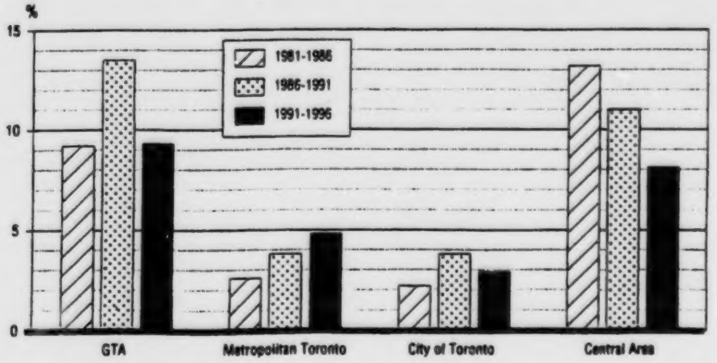
Table 1:
Population and Related Data for 1996

Location	Area (km²)	Population	Density (pop/km²)	Employment	% Transit *
Central Area	20	145000	7100	383000	63.5
Former City of Toronto	98	654,000	6480	562,000	36
Toronto	630	2,385,000	3611	272,000	29
GTA Urban Area	1480	4,630,000	2862	2,290,000	19

Source: City of Toronto Urban Development Services, 1997
* All trips made during a weekday peak period (6 - 9 a.m.)

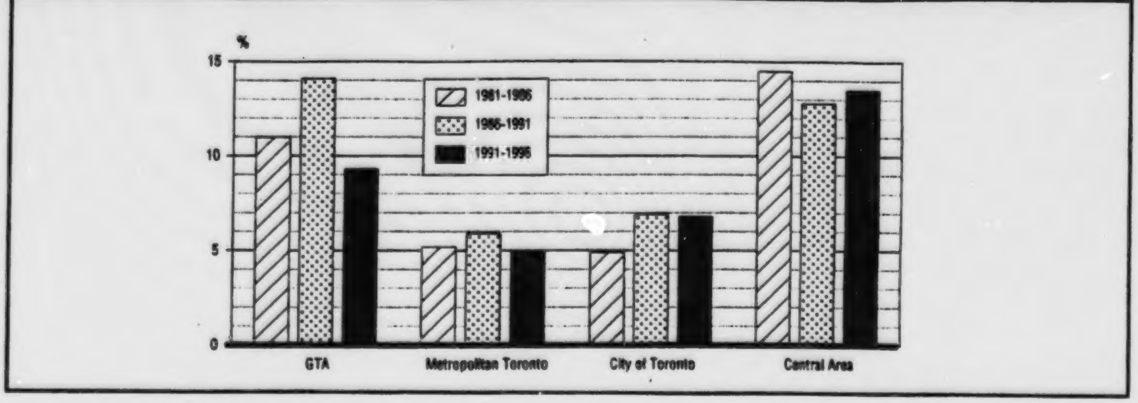
Over half of the City's growth in recent years has been in the Central Area (bounded by Bathurst on the west, Dupont on the north, the Don River on the east, and the lakeshore). This district includes 76% of the City's office space, 74% of employment, and 23% of the City's residents. Between 1991 and 1996 there was substantial intensification in the urban core: the number of occupied dwellings increased by 13.5% in the Central Area and by 4.7% elsewhere in the City.

Figure 2:
Population Change, 1981-1996, Greater Toronto Area, Metropolitan Toronto, City of Toronto and Central Area



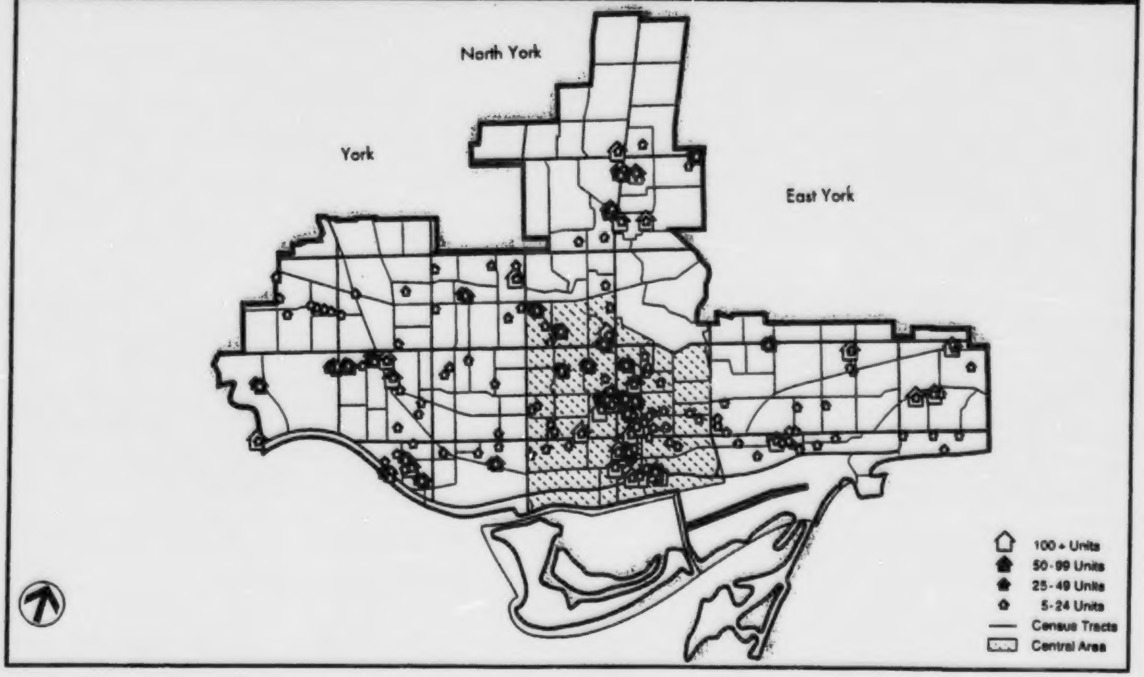
Source: Statistics Canada, Census of Population

Figure 3:
Occupied Dwelling Unit Change, 1981-1996, Greater Toronto Area, Metropolitan Toronto, City of Toronto and Central Area



Source: Statistics Canada, Census of Population

Figure 4:
Completed Residential Projects with 5 or more Dwelling Units, 1991-1996


North York
York
East York
100 + Units
50-99 Units
25-49 Units
5-24 Units
Census Tracts
Central Area

Source: City of Toronto Urban Development Services, No.1, 1997, "Profile Toronto"

The nature of the population pyramid has changed, as has the multicultural mix. The City's population is aging in place. By 2011 over half of homeowners will be over the age of 55. It is estimated that roughly half of the people in Toronto are immigrants. A representative of Statistics Canada reported that, over the next decade "natural increase will account for only about 40 percent of growth; and if we keep the current fertility rate of 1.7, deaths are going to exceed births by the early 2030s, at which point any growth in the population will depend entirely on immigration." (Petrie, Bruce, 1997).

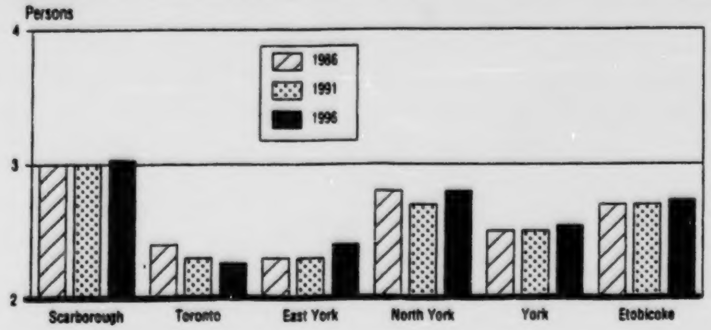
The average household size is smaller in the former City of Toronto (2.26 persons) and much smaller in the Central Area (1.91 persons), than in suburban areas like Vaughan (3.7 persons). The trend toward smaller households will continue as the population ages, though the rate of change is likely to mirror the past decade, rather than the dramatic changes of earlier decades. The long-term trend toward smaller households has enormous implications for housing providers; almost twice as many housing units are required now in the City, as compared to 1951. An exception to this trend is such inner suburban areas as Scarborough where household size is relatively high (slightly over 3) and increasing marginally in recent years, largely as a result of an influx of immigrants with large families.

Table 2:
Average Household Size for the City of Toronto

Year	1951	1961	1971	1981	1991	1996
Ave Hsehold Size	4.2	3.7	3.0	2.4	2.3	2.26

Source: Statistics Canada, Census of Population

Figure 5:
Average Household Size, 1986-1991



Source: Statistics Canada, Census of Population

Who lives in the City?

Many will chose to live outside of the city. For example, young families will leave the city to buy single family detached homes in the suburbs, if they are affordable. However, there also will be many people who will move to or continue to live in the city. Those who prefer urban living include some immigrants, seniors, single persons, empty nesters, and lone parents. Most of these people will occupy rental housing and condominiums.

- **Immigrants**
  Immigration increased by 15% from 1991-1996. (CMHC, *Research and Development Highlights*, Issue 33, June 1997). Four out of ten immigrants to Canada come to the GTA. In the period 1986 - 1991, 70% of these newcomers settled in Toronto, representing a flow of approximately 50,000 people a year (Metro Planning, 1996, *Housing Patterns and Prospects in Metro*). Ninety percent of these people gravitate to three municipalities: the former cities of Toronto, North York, and Scarborough. Scarborough receives almost twice as many immigrants per capita as the rest of the City.

  Most recent immigrants are relatively young, in two-parent families with children. Most are low-income renters; less than one-third of recent arrivals own their homes. Over time, however, most of these families become homeowners; in fact, their rate of homeownership (66%) is higher than the rate for non-immigrants (62%) (CMHC, 1996). At an average household size of 3.56, newly-arrived immigrants represent a demand for more than 14,000 units of housing in Toronto each year.

  The federal government recently raised the immigration quota to 225, 000 from approximately 220, 000. Immigration will continue and most immigrants will continue to gravitate to the urban centres of Toronto, Vancouver and Montreal. If recent patterns prevail, about one-third of new arrivals in the GTA will settle in areas like Mississauga or Markham; that is, within the existing built-up area, but on the edge. The remainder will settle in the city proper.

- **Seniors**
  Canada's population is aging rapidly. 11% of the City's population is 65 years or older. The greatest concentration of seniors in the Toronto region is downtown and in the inner suburbs. Over a third of the seniors in Toronto live alone.

  More and more seniors are in low-density neighbourhoods, rather than apartments. Single elders in suburban areas, however, often find it difficult to manage once their mobility declines. Some will opt to live in urban neighbourhoods, where most services and amenities are readily accessible, provided that affordable, appropriate, well-located housing is available. For these people, many of them in one-person households, small housing units with relatively low rents are most appropriate.

Some seniors who are financially able will purchase condominiums in the city and inner suburbs. Many of those now living in the inner suburbs (Scarborough, Etobicoke, and North York) will remain in place. Most seniors, however, cannot afford to buy condominiums; half of the City's senior tenants are in subsidized housing.

- **Singles, Generation X and the Echo Generation**
  Two-thirds of all households in the former City of Toronto consist of only one or two persons. Four in ten households are single persons. The *entire* net growth in the City is made up of non-family households (3/4) and single-parent households (1/4).

  Forty percent of Toronto's households are single-person households. More than two-thirds of these household heads are below the age of 65. Non-family and single-person households will continue to grow, but at a slower rate than in the past decade. In *Boom, Bust and Echo*, demographer David Foot predicts that many singles, including the children of baby boomers, the Echo Generation, will return to the city to enjoy the advantages of urban living. He notes that the movement of this generation out of their parents' suburban homes to experience the action and excitement of the city will have a significant impact on maintaining the vitality of existing urban districts. Their numbers will be supplemented by members of "Generation X", who will remain in the City in areas where they can rent or buy older, relatively cheap "fixer-uppers" (Foot, 1996).

- **Women and single parents**
  Women are highly represented in groups such as the elderly and single parents. In 1991, almost 85% of a total of just over 25,000 single-parent families in the City were headed by women.

  One in six "census families"[4] in Toronto are single parent families. About 70% of lone-parent families live in urban apartments. (CMHC, Issue 31, June 1997). Given their income levels and housing needs, most find that the urban core and perhaps urban areas on the edge of the city are the most appropriate places to live.

  Women will continue to be the dominant group in cities. Because of their double work roles (as mothers and income providers) they have special concerns including safety issues, housing, mobility, public transit, and the need for close proximity between home, work, and other activities such as daycare, school, shopping, and health care.

- **Low-income renters**
  Most low-income renters live in the urban area: these include seniors on low fixed incomes, singles, immigrants, single parents and women. The fastest growth in Toronto's population is at both ends of the income ladder: 40% of household growth in the 1980s

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[4] Census families include married couples, common-law couples, and single parents with at least one child living in the same dwelling.

was people earning $85,000 or more; most are condominium owners and empty nesters who opt to live near work and urban amenities. The other main source of growth was low-income renters as well as some low-income homeowners. Toronto has over 70% of all low- and moderate income households in the GTA. Growth in the outer suburbs has been from above average income households (half of them migrating from the City). The result has been a growing income gap both within the City and between the City and the outer suburbs.

The City has more non-family, lone parent, and childless couple households that are low income, across all age groups. At all income levels, the City has three times the number of singles as the outer suburbs, and twice as many senior couples. (Metro Toronto, 1996).

Many low-income groups share households. In St. JamesTown, for example, population increased by 1400 in the second half of the 1980s, and by another 1600 from 1991-1996, even though no new construction took place (City of Toronto Urban Development Services, 1997). This population growth is attributable to doubling up and to an influx of large immigrant households.

- **Young couples, Empty Nesters and well-to-do condo owners**
  Much of the growth in urban areas is attributable to people who wish to locate near downtown, so that they can purchase lofts and other condominiums, walk to and from work, and enjoy the amenities of the city. Young couples, empty nesters and the well-to-do, provide examples. Some empty nesters, parents whose children have grown up and moved out (leaving them over-housed), are selling their large suburban homes and buying smaller lofts or other condominiums in the city.[5]

- **Existing residents**
  There are many residents who chose to remain in cities because they like urban living or because a downtown location is handy to their workplaces. Some also remain because they cannot afford to move to the suburbs (Metro Toronto, 1996).

Housing

Population trends and housing are intimately connected. As demographic characteristics change, these patterns are reflected in housing and neighbourhoods. Once houses are vacated by seniors, for example, they are rented by larger non-family households. These trends are most apparent in the inner suburbs, where there is a shift to rental tenures, a marked increase in second suites, and an aging of neighbourhood populations.

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[5] From 1986-1997, 36,435 condominium units were completed in the amalgamated city, an annual average of 3,036 units.

Some local officials and non-profit housing providers recognize the importance of adding to the existing housing stock and increasing housing options, in order to meet the changing needs of the population. The suggested changes include: providing townhouses and apartment condominiums for first-time owners; providing housing options for seniors who vacate low density houses; preserving the supply of low-rent housing for low-income tenants; increasing rental stock through production or, more likely, through the creation of second suites and basement apartments.

In Toronto there is a concentration of private rental apartments (50%), condominiums and second suites (30%), and social housing (20%). While the City supplied one-quarter of new units over the past decade, most building is concentrated in the outer suburbs, where the pattern is low density detached housing. During the first half of the 1990s only 150 private rental units were built each year, meeting less than 4% of the need for additional rentals. Given this trend and the decline of social housing programs, coupled with continued growth, there will be an increasing gap between demand and supply and a increase in rental affordability problems.

Table 3:
Dwelling Types in the City and the Suburbs, 1991

	Single detached	**Apartments**	**Other**
Toronto CMA	44%	38%	18%
Former City of Toronto	18%	60%	22%
Vaughan	88%	—	12%

Source: Statistics Canada, Census of Population

Table 4:
Changes in Toronto's Housing Stock, 1986-1991

Changes from owner-occupied to:	**Number of Units**	**Location**
Rental	26,000	in the GTA
Rented condominiums	21,000	in the GTA
Private rental	11,000	outside the City
Second suites	10,000 - 25,000	in the City
Social housing	12,000	in the City

Source: Metro Planning, 1996

Rental affordability problems are common. Half of the tenant households in the GTA paid more than 30% of income on rent in 1991. Since then, vacancy rates have dropped in response to tightening supply, rents have increased, and more tenants are experiencing affordability problems. This number grew by 35 percent between 1981 and 1991. CMHC estimates that the number of renter households in Core Housing Need increased by one-third between 1991 and 1996; the average shelter cost-to-income ratio for these people was 47%. (CMHC, 1998, *Research & Development Highlights*, Issue 39) Affordability issues are reflected in waiting lists for subsidized housing, which are now five times higher than a decade ago.

In the Toronto area about 160,000 households are in Core Need, as defined by CMHC;[6] half are families, 30% singles, and 20% seniors. A substantial majority of the lowest income quintile (with incomes under $23,000) pay half or more of their gross income on housing.

Metro Planning projected an increase in GTA rental demand of 6,000 units annually in the 1990s; this is substantially higher than expected production rates for rental housing. Planners expect that this gap will be made up by the "non-conventional sector" (basement apartments and second suites) which in turn "will mean more neighbourhood change in suburban" Toronto (Metro Planning, 1996, p. 63). Across the GTA average occupancy of dwellings is 0.5 people in each room, which means that the population is, according to CMHC standards, "over-housed;" this points, at least in theory, to an underutilized resource which could be tapped to meet future need.

The recent trend toward the creation of both jobs and new housing in the urban fringe is likely to continue. However, an increasing *percentage* of total growth, in housing and in population is likely to occur inside those boundaries, that is, in the existing built-up urban area. This assumes that parts of the existing urban area will be receptive to small scale, compatible infill housing and that the pattern of greenfields development on the urban fringe cannot continue indefinitely.

In the former City of Toronto some land still exists for residential development. In 1995 there were about 3.1 million square meters of land that was vacant, 7.3 million square meters in open space, and 8 million square meters devoted to parking. Estimates from area planning offices indicate that the residential land inventory in the City can accommodate up to 265,000 housing units. Large areas in the City are suitable for housing projects: these include the railway lands, West Don lands, and various near-vacant industrial areas. In addition, there is considerable room for more housing in the existing built-up area: empty lots, unoccupied industrial and commercial buildings, parking lots and garages, on top of existing retail stores, within existing houses (empty bedrooms or basement apartments), and alongside houses (in the form of granny flats, accessory apartments or outbuildings). A 1992 study reckoned that all projected residential and commercial growth expected as a result of natural increase and revitalization until 2011 can be accommodated on 7% of the land area in the City (Berridge Lewinberg Greenberg Ltd., 1992).

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[6] Core need is a measure of housing cost, repair and overcrowding. Low-income residents are in core need if they pay more than 30% of income for rent, or if there is more than one person per room, or if their home is in need of major repairs.

Table 5:
Estimated Housing Units that can be Accommodated in the Amalgamated City of Toronto

Municipality	**Range**
Toronto	22,000 - 73,000
North York	13,000 - 73,000
Scarborough	10,000 - 67,000
Etobicoke	6,000 - 32,000
York	6,700 - 13,000
East York	677 - 7,000

Source: Metro Toronto, 1996: Appendix A

Employment

A continuation of economic globalization will ensure that a substantial part of the existing and future urban population will fill service jobs, remain relatively poor, and will require affordable rental units in the urban area, close to transit and with ready access to jobs and services.

In the former City of Toronto there are almost as many employees (522,000 in 34,000 firms) as there are residents (635,000). Three out of five jobs in the city are in offices; only one in 25 jobs is in manufacturing. The nature of "industry" and "manufacturing" is changing. Manufacturing jobs are leaving the city and relocating to the suburbs, the United States or developing countries. Most "dirty" manufacturing activities no longer exist in Canada. The new "industry" in the city is made up of arts and entertainment companies, graphic arts firms, computer-based entities, and agencies engaged in knowledge work or information technology. Also, service and FIRE sector (finance, insurance and real-estate) jobs are increasing. This type of work presents fewer compatibility problems than does heavy industry. Thus, much of the new growth in this area can be accommodated in the existing urban area and these new "industries" can be located in close proximity to offices, often within the same buildings. In recent years developers have provided a variety of "live-work" units which allow people to work in the same space where they reside.

Transportation

The Car and Commuting

Three quarters of all trips in Canada are by car. This is considerably greater than European countries where less than half of all trips are by automobile. There are more than 12 million cars traveling on Canada's roads for approximately 200 billion kilometers each year. Public transit use in Canada is similar to other European countries, representing 14% of all trips. However, the use of alternative transportation modes, including cycling and walking, is much lower here than in Europe.

Toronto's overall density is 40 persons per hectare, which is only 20% less dense than Paris; but automobile dependence here is more than twice as high, and per capita use of gasoline 2.5 times as high. In Copenhagen and Frankfurt, five times as many people walk to work as do their counterparts in Toronto.

Table 6 :
Mode of Transportation (as a percentage of total trips)

Country	Automobile	Public Transport	Bicycle	Walking	Other
USA	84	3	1	9	3
Canada	**74**	**14**	**1**	**10**	**1**
Denmark	42	14	20	21	3
France	47	12	5	30	6
England and Wales	62	14	8	12	4
Italy	42	16	5	28	9
Sweden	36	11	10	39	4
Switzerland	38	20	10	29	3
The Netherlands	45	5	30	18	2

Source: Adapted from Pucher, "Urban Passenger Transport in the Untied States and Europe: A Comparative Analysis of Public Policies, Part 1. Travel Behaviour, Urban Development and Automobile Use." Transport Reviews, 1995, vol.15, no.2, p.101. In: Lincoln Institute of Land Policy, 1995, "Alternatives to Sprawl"

The 1991 Census found that one-third of the labour force in the former City of Toronto work outside their census division. This is in sharp contrast to suburban areas where about 85% of the population commutes outside of their census division to go to work. It appears, as a very rough approximation, that at least two out of three city workers can get to work without driving, whereas almost all of their suburban counterparts drive to work.

Table 7:
Percentage of Commuters Using Public Transit for Work Trips

Region	Percentage using public transit for work trips
Downtown	65%
City of Toronto	35%
Peel Region	11%
York Region	10%
Durham Region	9%
Halton Region	7%

Source: City of Toronto, Urban Development Services, 1997

There is an increase in traffic congestion as the region experiences more trips, longer trips, more vehicles on the road, and substantial problems with air pollution. A recent phenomenon is the growing incidence of suburban congestion and occasional suburban gridlock.

Many people who choose to live far from the city in order to "get more house for their money" fail to take into account the economic, personal and family costs associated with long commutes. The commutershed now extends more than 150 kilometers from downtown Toronto. Many commutes are now 90 minutes or longer. This translates to three hours per day, 15 hours per week, 750 hours per year, or four weeks each year. Commuters spend much of this time with their car engines idling as they wait for traffic to move. Traffic speeds in some cities around the world are extremely slow and getting slower. In London, for example, traffic moves at the same speed now as in the Victorian era of horse-drawn wagons and carts.[7]

Transit Use

Public transit saves valuable city space. A standard six lane highway can carry 85,000 cars a day or about 120,000 passengers. A double track railway can carry 200,000 people in a day - on less than one sixth of the land used by the highway.

More than half of the households in Toronto's Central Area do not own a car. Among renters, the percentage of non-car ownership is even higher. In the downtown area two-thirds of *work trips* are by public transit, and 10% of downtown residents walk or cycle to work. 86% of all residents of the City live within a 15-minute walk of public transit. As a result, transit ridership among Central Area residents is quite high. There is considerable disparity, however, between inner and outer districts in terms of density and transit use. The Central Area, with a density of 57 persons per hectare, has a rate of transit use of 37 - 44%; this is for *total trips*. In outer parts of the City, where the density is lower (34 persons per hectare) transit use drops to 24 - 32%, and declines to 10% or less in the suburbs. Public transit ridership in the region is declining; at the same time the Province is discontinuing its contributions to the operating revenues of the transit system.

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[7] Subsidizing the automobile accounts for 66% of all the subsidy that Canadian taxpayers provide to passenger transport (Environment Canada, 1995).

Jobs are being created at a high rate across the top of the City, mainly in the FIRE (finance, insurance, and real estate) sector as well as information services and back offices.[8] This has resulted in an increase in the number of people commuting across the top of the city.

Another new pattern is "counter-commuting" most common by young urban professionals who work on the edge of the city but chose to live close to downtown, with its concentration of arts and entertainment districts and urban amenities. Many of these workers will commute by public transit outward from the city centre, provided that they can find affordable housing in the core. These counter-flow commuters will use transit at peak hours, but will be travelling in the opposite direction to most commuters. The transit system is now heavily used by commuters (one-third of peak time trips are by transit) but is underutilized in the counter-flow direction. By 2011 the number of net in-commuters to the City (if present trends continue) will be 500,000 daily on weekdays.

Infrastructure / Development Costs

What are the costs of sprawl? We are well informed that an increasing proportion of our tax dollars are subsidizing public transit, yet we rarely hear about our subsidization of suburban development. Existing development patterns cost a great deal of money and engender social and environmental costs. Uncontrolled sprawl uses up prime agricultural land, requires enormous amounts of new infrastructure and necessitates reliance on cars. Governments are no longer willing or able to bear the brunt of these costs. Development charges are being passed on to consumers who must pay for the infrastructure used to create their new housing.

The pattern of suburban or exurban development over the past few decades (three units per acre or about eight per hectare) cannot be served efficiently by public transit (See Figure 6). Public monies are being used to subsidize transit in these areas, where ridership is extremely low. This means that funds are being diverted from downtown transit systems where ridership is much higher, and where taxpayers receive a much greater return on their investment. Public transit is most efficient when the built form is quite dense, as in central urban districts where there are more than 7,000 people per square kilometer. Many areas of the city can be built at higher densities; this will lead to greater transit use, fewer commutes by car (as a percentage of the total) and less traffic congestion than would be the case if present development trends were to continue.[9]

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[8] Back office work refers to data processing and similar tasks for financial and insurance firms which do not require either a downtown location or face-to-face contact with clients. Because downtown office space is expensive, much back office work has shifted to the urban periphery.

A 1995 report indicated that the GTA will be forced to spend almost $70 billion in capital expenditures over the next 25 years to fund development if present sprawl is allowed to continue.

An examination of development patterns in New Jersey determined that a managed-growth approach, as opposed to traditional suburban sprawl, would result in 43.5% less land consumption. Infrastructure costs would be reduced by 25% for local roads, 15% for water and sewer utilities, 5% savings for housing and 2% for fiscal impacts.

As development charges rise to reflect more of the true costs of new buildings on the urban fringe, some consumers and developers may gain a better appreciation of the benefits offered by intensification within the existing built-up area. The provincial government in Ontario will require all municipalities to set new development charges by August 31, 1999. The Home Builders Association asserts that municipal levies, fees and charges represent almost 10 per cent of the purchase price of a new single, detached home. Included are infrastructure charges, land dedications, development application and processing fees, and building permits. These charges, which have increased about 260 percent since 1985 in Greater Toronto, total $9,317 in the former city of Toronto, $19,518 in Ajax, $20,938 in Mississauga, and $33,173 in Richmond Hill.

Substantial environmental costs are associated with excessive sprawl and reliance on the car. Patterns of land use have been drastically altered by the increased use of the automobile resulting in loss of agricultural land. Much of the built-up urban area has been paved over, contributing to more stormwater runoff, which exacerbates the problem of water pollution in lakes and streams. The Office of the Greater Toronto Area (1991) estimated that 223,000 acres of greenfield land would be consumed by 2021 to accommodate low-density peripheral development.

Vehicles account for about three-quarters of air pollution in the form of nitrogen oxides, carbon monoxide, and hydrocarbon emissions. The car is responsible for 20-25 per cent of carbon dioxide emissions, including the carbon dioxide from its energy use and from the extraction, transportation, refining and distribution of oil. In Canada, the transportation sector, including air and marine, is responsible for one-third of carbon dioxide emissions, contributing to Canada's position as the world's largest contributor, per capita, of carbon dioxide to the atmosphere.

There is a direct relationship between energy conservation and housing form. The preferred form of suburban development, the single family detached home, uses significant amounts of energy.

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[9] Current development patterns, even in the downtown areas, allocate substantial areas to the automobile and trucks. Approximately one-third of all urban land is dedicated to transportation purposes. Toronto fits this pattern. An estimated 20-25% of the land is allotted to streets and highways. If land used for parking, gas stations, maintenance shops and junk yards is taken into consideration, the total increases to 35% (Stewart, Greg, 1997).

A CMHC study concluded that the "detached housing option requires approximately four times more infrastructure per unit than the duplex option...Detached houses can consume anywhere from 15 to 67 percent more energy than other common ground-oriented housing options, primarily because of their high exposed surface-to-volume ratio...Energy savings as high as 50 percent can be realized if higher density developments (67 to 94 dwellings units/hectare) were to replace low-density, urban sprawl." (D'Amour, David, in Brandum, Susan, 1994).

In the United States, a review comparing the costs of installing and servicing amenities for single-family (3 units per acre) suburban dwellings with those of moderate density suburban condominiums (33 units per acre) yielded the following examples: for streets and roads, $3,000 per single unit versus $800 per condominium unit; for utilities, $5,000 per single unit versus $950 for each condominium unit; 400 gallons of water consumed daily by single units compared to 200 gallons for condominiums; 150 therms of natural gas per month for singles as against 60 therms for condominiums; and 10, 000 kw hours per year of electricity to singles against 6,000 kW per year for condominiums. A similar comparison of low-density versus high density conditions revealed that single homes in Davis, California use 15 more times as much roadway, 40 times as much arable land, 50 times as much lumber, 70 times as much landscaping water, and 300 times as much postal delivery route as city apartments in San Fransisco.[10]

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[10] It has been claimed that during the 1989-1990 fiscal year the real social costs of automobile use in Ontario were over $8 billion, all of which was subsidized by the provincial government. Full-cost accounting for automobile use would increase the costs associated with the car and encourage people to find alternatives. There was a 23% reduction in federal employees driving to work when the Federal Government in Ottawa increased the fees for its employee parking lots.

GROWTH SCENARIOS

Figure 6 provides an illustration of growth patterns in the Toronto region in 1952, 1975 and 1992. The scenarios used in this study reflect, in part, earlier projections by the IBI Group and by Hemson/Coopers & Lybrand for the Office of the Greater Toronto Area (OGTA). These are generally referred to as:

- *Spread:* a continuation of existing trends toward urban sprawl (shown in Figure 7)
- *Central:* conscious efforts made to concentrate part of the regional growth within the City of Toronto, though most of the expected growth will be on the urban fringe or in the surrounding regions (shown in Figure 8)
- *Nodal:* continued growth on the urban fringe but concentrated around existing urban areas (shown in Figure 9)

The present situation in the GTA is shown graphically in Figure 10, where the peaks on the chart depict the areas of highest density. It is apparent that average densities drop off rapidly as one goes outward from the downtown core. The average density of outlying areas (though still within the GTA) is less than 10% as dense as the Central Area of Toronto; the density of the non-urbanized part of the GTA is only about 600 persons per square kilometer while the average density for the former City of Toronto is 6,500 persons per square kilometer and the Central Area is 7,100 persons per square kilometer.

The intensification options presented in this study are predicated not simply on reducing sprawl; the aim is to stimulate revitalization of the urban core, to make better use of existing infrastructure, and to capture opportunities for infill. Unlike cities such as New York, for example, Toronto has substantial room for new housing units on scattered sites as infill projects. Metro Planning's 1996 report estimated that as many as 265,000 new units could be accommodated without engaging in demolition and redevelopment.

The intensification or Central scenario suggested by the OGTA has the smallest amount of commuter rail line but the highest level of rail transit service, the greatest amount of transit use, and the highest service frequency as well as the highest transit cost-efficiency. It also has the lowest number of cross-boundary trips (among the regions of the GTA). The spread or sprawl option, on the other hand, has the largest road network, the highest level of travel in terms of time, distance, and cost, and only slightly better intercity connections for travellers and goods. On all of these measures, the nodal scenario falls in the middle (IBI,1990).

In the studies done for the OGTA (Hemson/Coopers & Lybrand, 1993) the highest population growth scenarios for Toronto project an increase of 420,000 persons (18% above the 1991 population) over a 20-year period, or 21,000 persons per year. [This growth represents 17% of the projected population increase in the GTA during the 1991-2011 time frame.] Assuming an average household size of 2.3 persons this growth rate results in 9,130 net new housing units required annually. At a density of 250 units per net residential hectare the intensification scenario would require 36.5 hectares annually or 730 hectares for residential redevelopment over a 20-year period. Additional lands would be required to replace existing units removed through redevelopment. Assuming that redevelopment is at least five times denser than existing units replaced, the total land area required for housing would be a maximum of 44 hectares annually or 880 hectares over a 20-year period. Additional lands will be required for employment and mixed-use functions; because this intensification scenario is predicated on use of existing infrastructure and community facilities, however, land requirements for non-residential uses are quite small compared with other scenarios that involve sprawl or nodal development. These calculations are shown in Table 8 below.

Table 8:
Population growth scenarios for the City of Toronto

Population increase per year		21,000
Population increase 1991-2011		420,000
Average Household Size		2.3
Net new housing required per year		9130 units
Density per net hectare		250 units
Land required for redevelopment per year	for residential: 36.5 hectares	Total: 44 hectares
Land required for redevelopment 1991-2011	for residential: 730 hectares	Total: 880 hectares

Source: compiled statistics from: Hemson/Coopers & Lybrand, 1993)

The most extreme scenario that has been suggested, at least as a hypothetical exercise, is to limit all growth to the existing urbanized area within the GTA. This means that most employment growth must be accommodated on existing disused or underutilized industrial/commercial sites and that housing is limited to infill and other forms of intensification (live-work spaces, accessory apartments, residential lot intensification, main streets developments, conversion of offices and commercial or industrial uses, as well as demolition and redevelopment). This alternative would entail a substantial amount of residential redevelopment, to replace older low density bungalows with intensive housing in the form of high-rise, mid-rise and low-rise apartment buildings as well as townhouses and other forms of apartment units.

In the hypothetical case of providing for all projected GTA growth within the existing built-up area, this would involve accommodating 2,430,000 people or 972,000 dwelling units as well as 1,470,000 new jobs over a thirty-year period (1991-2021). This new population projection represents an increase of 52% over the GTA urban population in 1996. In other words, the relatively low population density of the urbanized part of the GTA in 1996 (2862 persons per square kilometer) would increase to 4350 persons per square kilometer by 2021. This density is two-thirds of the figure for the former City of Toronto (in 1996) and is about 20% higher than the density in the amalgamated City of Toronto (in 1996). An extreme scenario of this sort is theoretically possible but it would mean a reversal of most recent population, employment and development trends and would require an extraordinary amount of government intervention, even if one assumes that there were sufficient political will to bring about such drastic measures.

Despite its low probability of being realized, a dramatic scenario of this sort has some value. Its principal use is to challenge conventional development practices (which gravitate toward greenfield sites on the urban fringe) and to induce planners, developers, public officials and policy makers to examine alternatives to sprawl. An exercise of this nature might, for example, cause politicians and planners to analyze the reasons for industrial employment moving toward the fringes (congested, obsolescent inner-city sites and buildings, restrictive zoning and building codes in the city, high taxes and occupancy costs, traffic congestion, shortages of accessible labour) and subsequently to alter planning, development and taxation policies in attempting to partially stem the tide. Moreover, extreme intensification scenarios may hasten changes being contemplated in development charges to reflect the true costs of exurban building; changes along these lines may increase the perceived attractiveness of sites within the existing urban area.

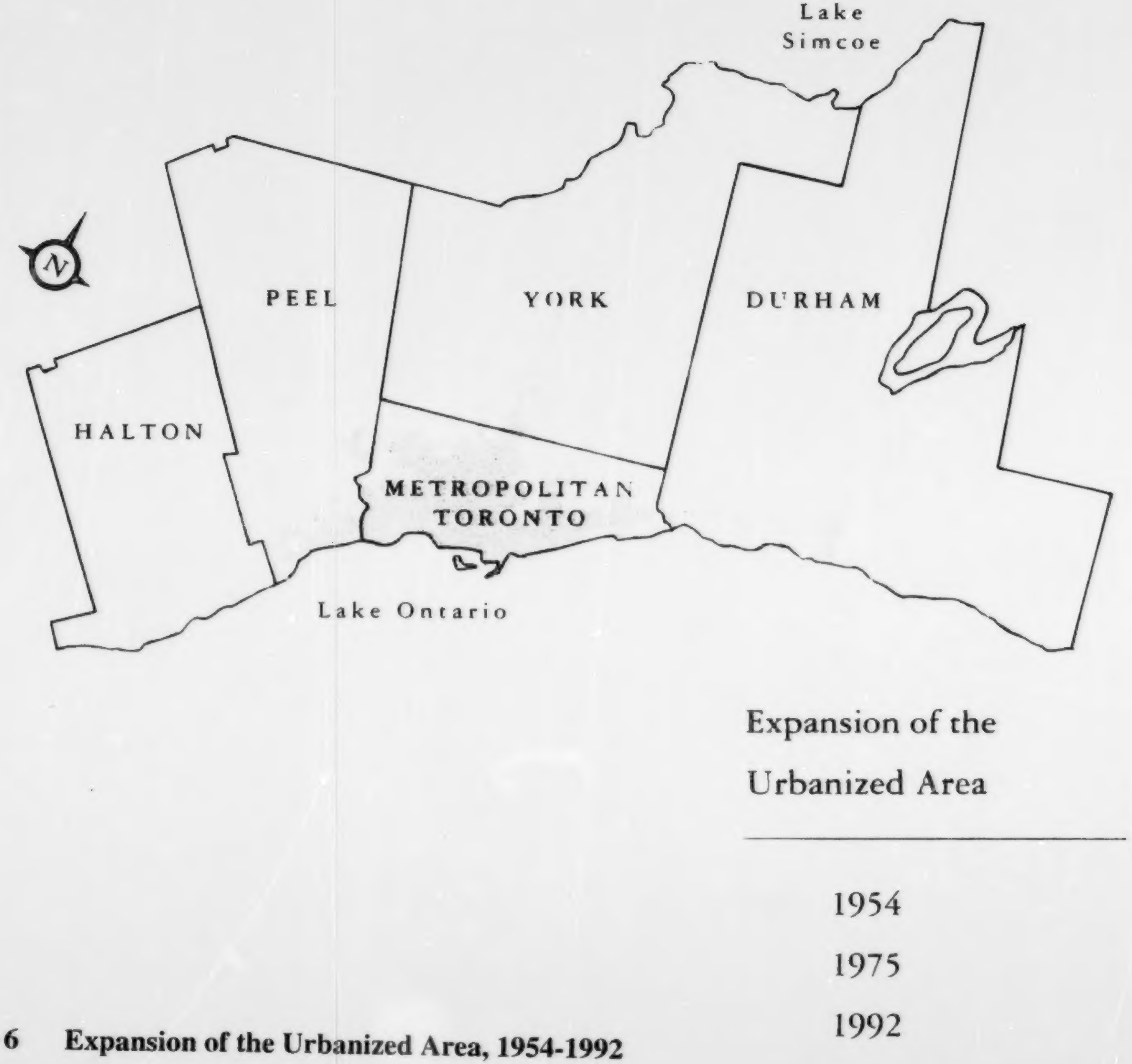

Lake Simcoe
PEEL
YORK
DURHAM
HALTON
METROPOLITAN TORONTO
Lake Ontario
N
Expansion of the Urbanized Area
1954
1975
1992

Figure 6 Expansion of the Urbanized Area, 1954-1992

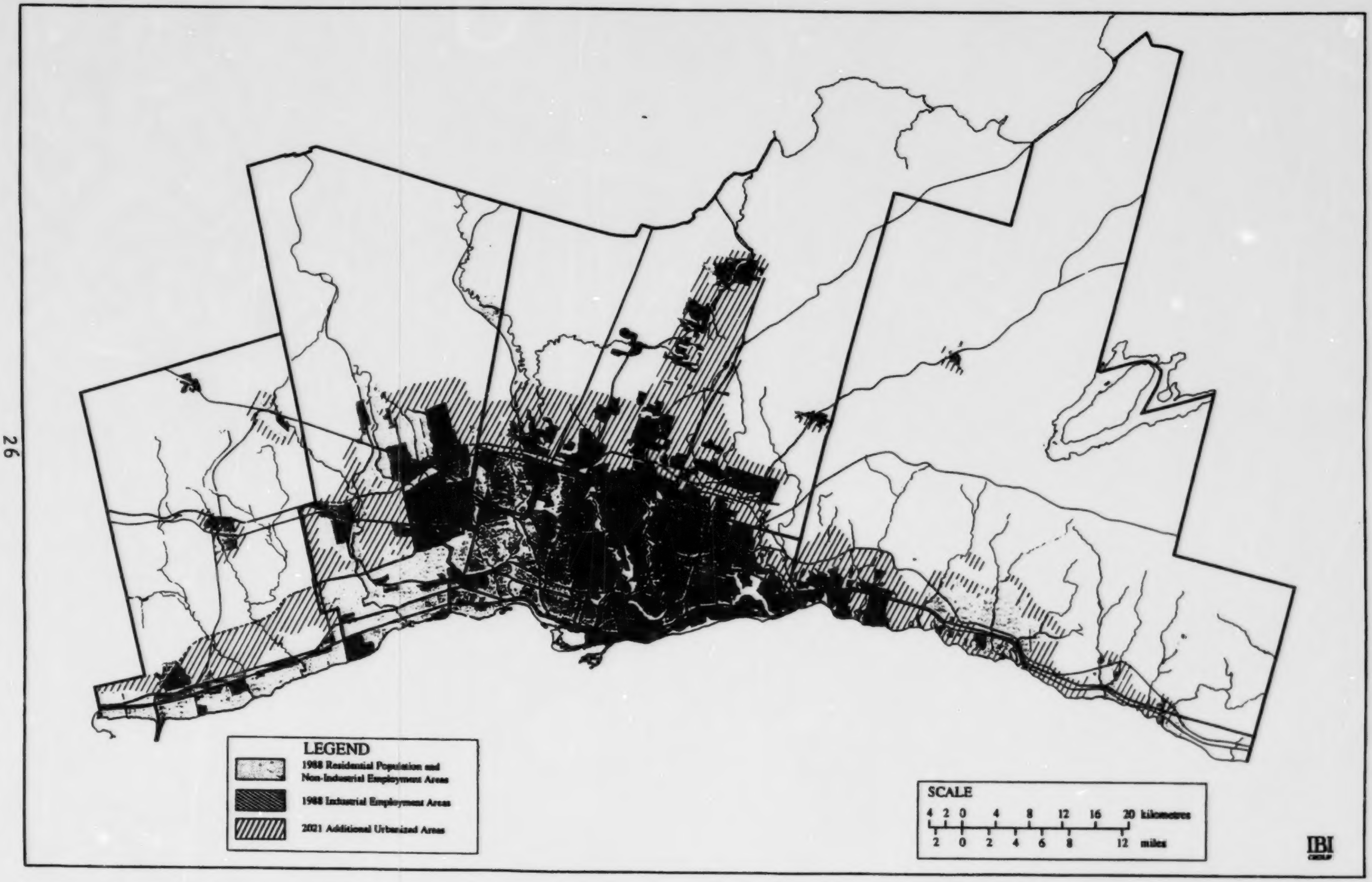

LEGEND
1988 Residential Population and Non-Industrial Employment Areas
1988 Industrial Employment Areas
2021 Additional Urbanized Areas
SCALE
4 2 0 4 8 12 16 20 kilometres
2 0 2 4 6 8 12 miles
IBI GROUP

Figure 7 Spread Concept for the Urban Region

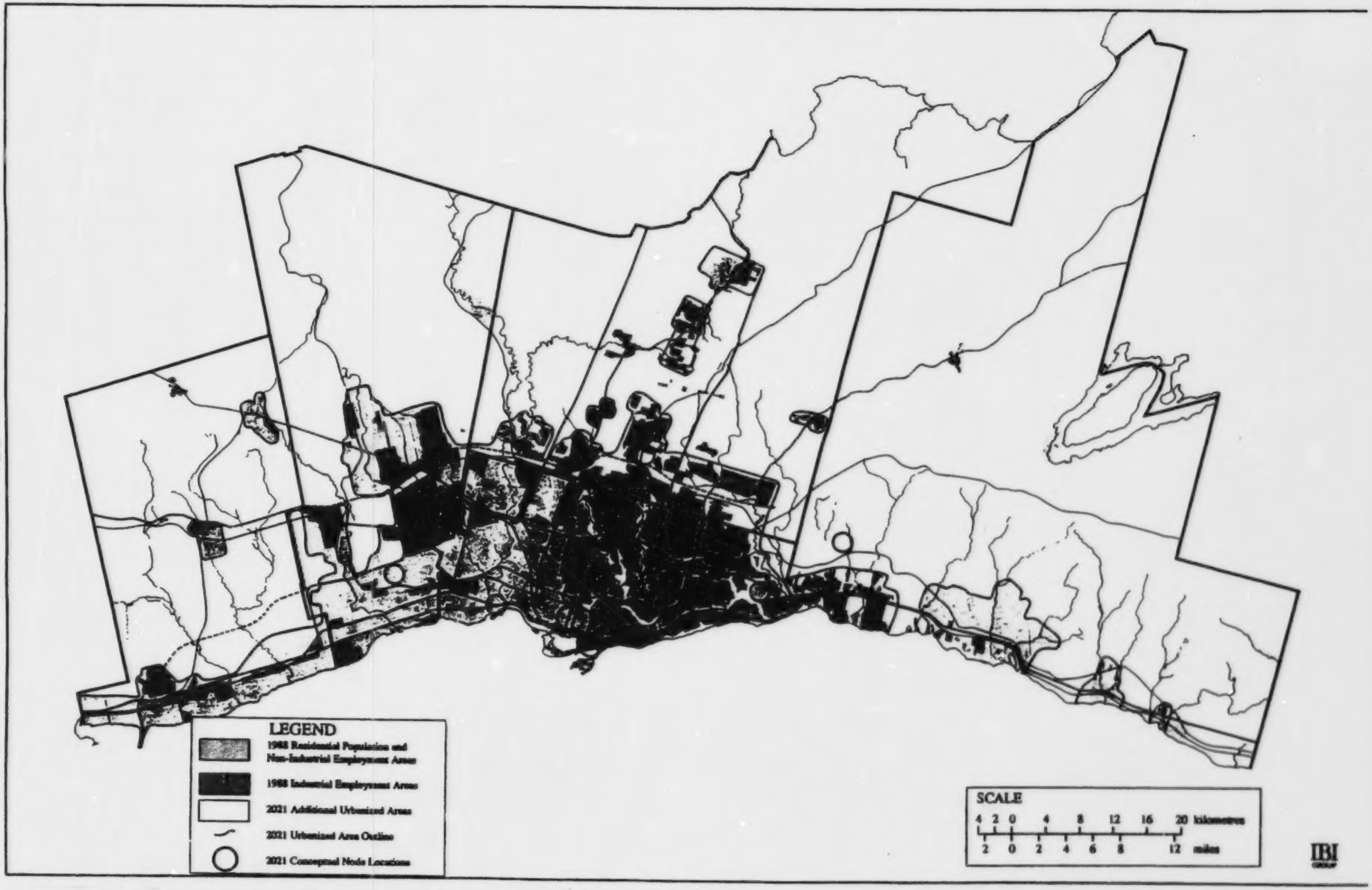

LEGEND
1988 Residential Population and Non-Industrial Employment Areas
1988 Industrial Employment Areas
2021 Additional Urbanized Areas
2021 Urbanized Area Outline
2021 Conceptual Node Locations
SCALE
4 2 0 4 8 12 16 20 kilometres
2 0 2 4 6 8 12 miles
IBI GROUP

Figure 8 Central Concept for the Urban Region

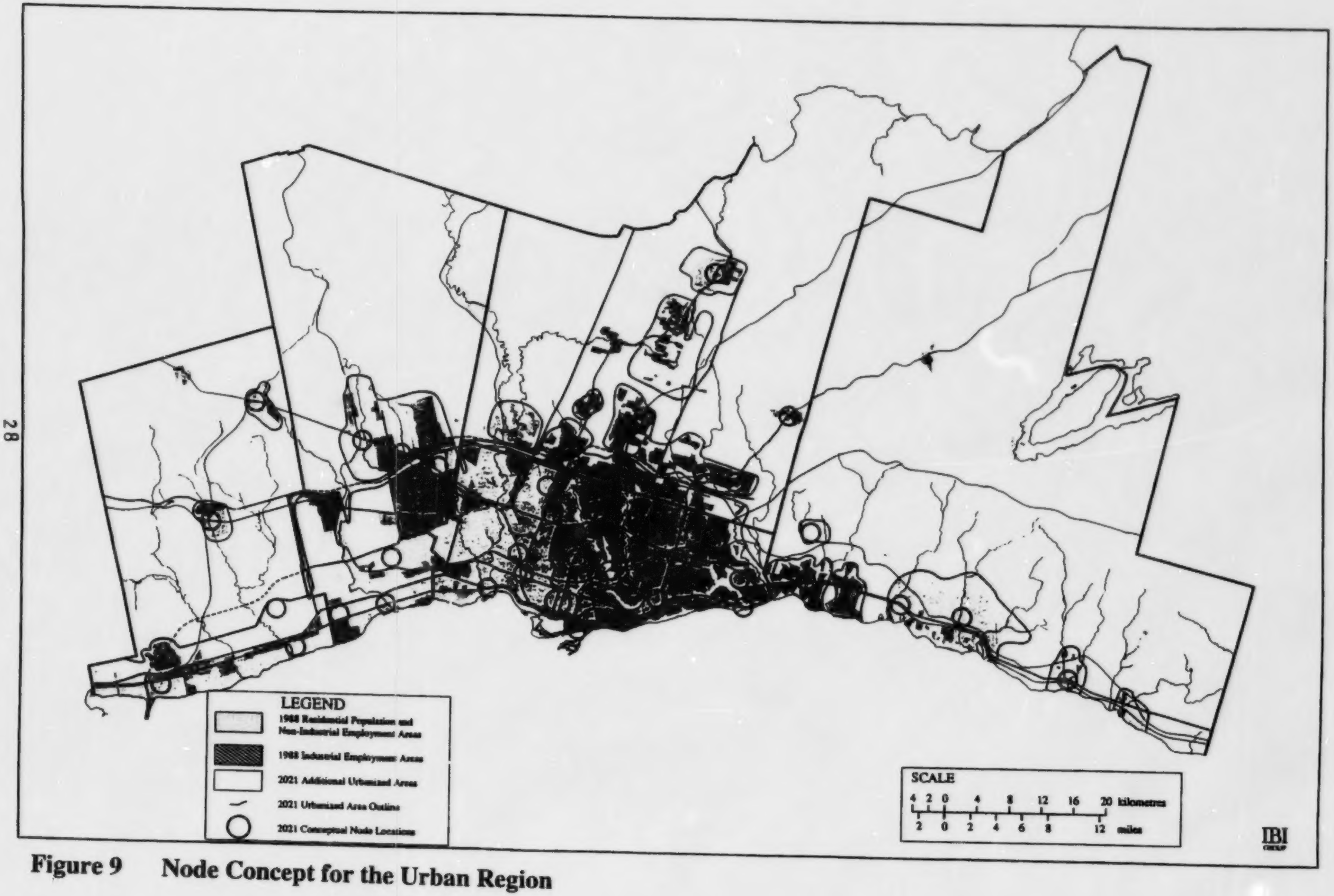

LEGEND
1988 Residential Population and Non-Industrial Employment Areas
1988 Industrial Employment Areas
2021 Additional Urbanized Areas
2021 Urbanized Area Outline
2021 Conceptual Node Locations
SCALE
4 2 0 4 8 12 16 20 kilometres
2 0 2 4 6 8 12 miles
IBI GROUP

Figure 9 Node Concept for the Urban Region

Toronto Islands and Harbour

Figure 10 Greater Toronto Area Densities in 1996

COMPUTER VISUALIZATION SCENARIOS

Members of the community can "visualize" the appearance of a building before it is built, provided that the design tools to facilitate this participatory planning process are at their disposal. Computer-aided design allows planners and community residents to examine proposed developments in terms of height, bulk, configuration, setbacks and other variables *before* planning approvals are given. This process, called computer visualization, allows for planning and design alternatives to be projected as a finished "picture" or spatial visualization so that the implications of each development alternative are readily apparent and available to all members of the public for debate and consultation.

Various intensification projects were examined in three neighbourhoods as part of this study. These exercises involved the use of Geographic Information Systems (GIS) and computer models. This marriage of GIS and computer-aided design (CAD) allows planners, architects, developers, and residents to view proposed changes in the context of the existing neighbourhood. All participants are afforded an opportunity for evaluation and critique in terms of building bulk and height, density, size, location, and placement of windows and doors, as well as relationships to existing buildings and other neighbourhood landmarks. Computer visualization projects of this sort allow for presentation at different scales and formats including axonometric (bird's eye view) as well as graphic images which virtually duplicate the pedestrian's view at ground level. Planners can then manipulate various elements to show how changes in the environment will affect an individual's sense of the place and the neighbourhood.

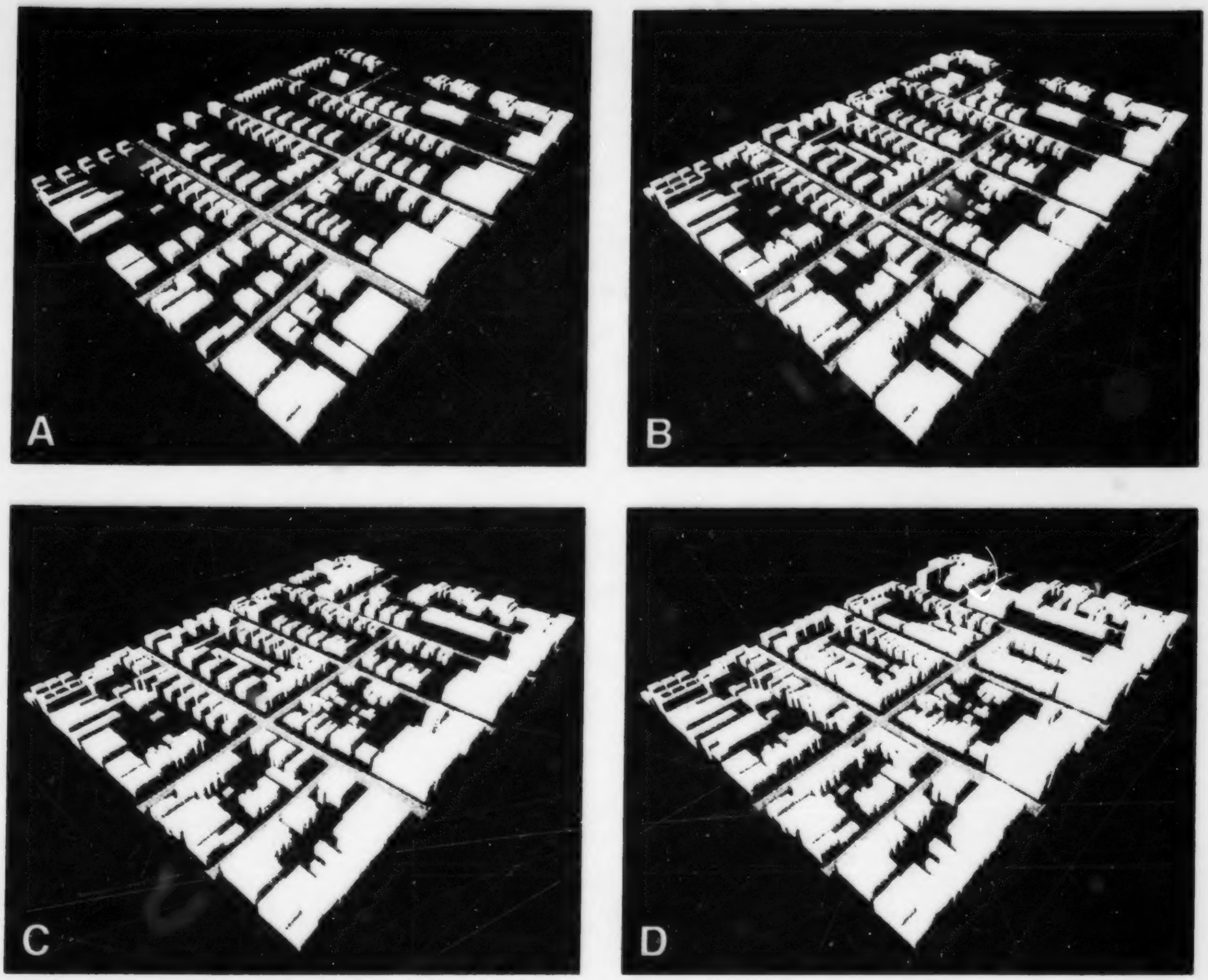
In order to achieve the objectives of this exercise, it is essential to have extensive information available in the form of property data maps, aerial photos, survey data bases and CAD files. Figures 11 - 17 project images of urban neighbourhoods where substantial databases exist in municipal planning files. These are used to illustrate the effects of intensification and to show changes over time in particular neighbourhoods where major infill projects have been developed.

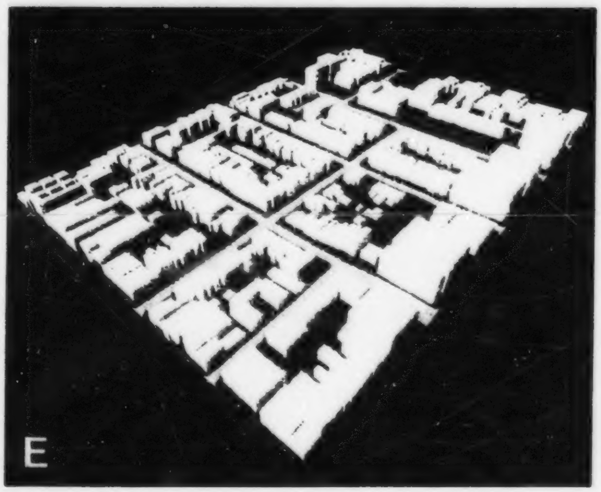
There are two stages to the process used in this report. The first involves acquiring a three-dimensional geometric model of the volumetric properties of the context and the precedent under study. This study utilized existing three-dimensional models of sections of the City of Toronto, which were created by the City using Microstation. The models were converted into the DXF file format. Then the files were imported into the simulation system used at the Centre for Landscape Research (CLR) at the University of Toronto. This system is called PolyTRIM and runs on Silicon Graphics computers. PolyTRIM permits one to analyze and design in one seemless interactive work environment. The computers are powerful enough to permit one to ask questions and instantly visualize or model the results. A paper on PolyTRIM exists at the CLR website: http://www.clr.utoronto.ca/PAPERS/CAAD95/caadf.jd8.html.

The results of the modeling can be exported as a DXF file or a VRML2 file for use in any other CAD or visualization system. The models from this study will be posted as images and VRML files that people can access from the CLR website. This opens up the ability to publish models over the world wide web or in documents for use by the public or professionals. CLR's tools have been used for several years in urban design review for the National Capital Commission, the City of Ottawa and the City of Toronto. An example of recent work on accessing three-dimensional context models derived automatically from city data bases of neighbourhoods in Toronto can be seen at the following website:
http://www.clr.utoronto.ca/PROJECTS/Toronto/GARRISON/test/index_1.html.

The most exciting new work focuses on expanding the visual analysis of a design in context beyond the relatively simple volumetric examinations of density used in this study. The new techniques include the latest advances in texture mapping digital photography to volumetric models for real-time viewing over the Internet. Examples of student projects for infill housing can be seen at: http://www.student.sala.utoronto.ca/~skA95/studio/stanley/virtual/virtual.html and a professional model being constructed for open space planning of the University of Toronto Campus can be seen at: http://www.clr.utoronto.ca/PROJECTS/CAMPUS98/campus98.html.

The potential of this technology is immense, but it depends on the availability of comprehensive data on the city's built form as well as geographic information in two and three dimensions; these, of course, require considerable resources. To be effectively employed, this joint venture of GIS and computer-aided design also must be sensitively used, not just by technicians, but by urban designers, planners, public officials, developers and citizens. With increasing use of the computer it will soon be possible for municipalities to allow their residents to "experience" proposed plans for their neighbourhood or community on the internet. These tools enable citizens to evaluate proposals from the pedestrian's perspective "...by experiencing space as a walk-through, rather than as a single artist's rendering that reveals perhaps the one and only flattering view of a project" (Levy 1998, pp. 62). Proponents paint a bright picture of the future potential of visualization: "Eventually the data query capabilities of GIS will merge seamlessly with the modelling capability of CAD to create a virtual city. This development will allow the investigator to go beyond the appearance of a model and literally walk through a city, ask 'what-if' questions and view the physical outcomes of these inquiries." (Levy, p. 64) The true potential of this new direction will not, however, be realized until it is fully incorporated in the planning process and is used in a fully participatory process which encourages community involvement very early in the course of considering redevelopment or intensification proposals.

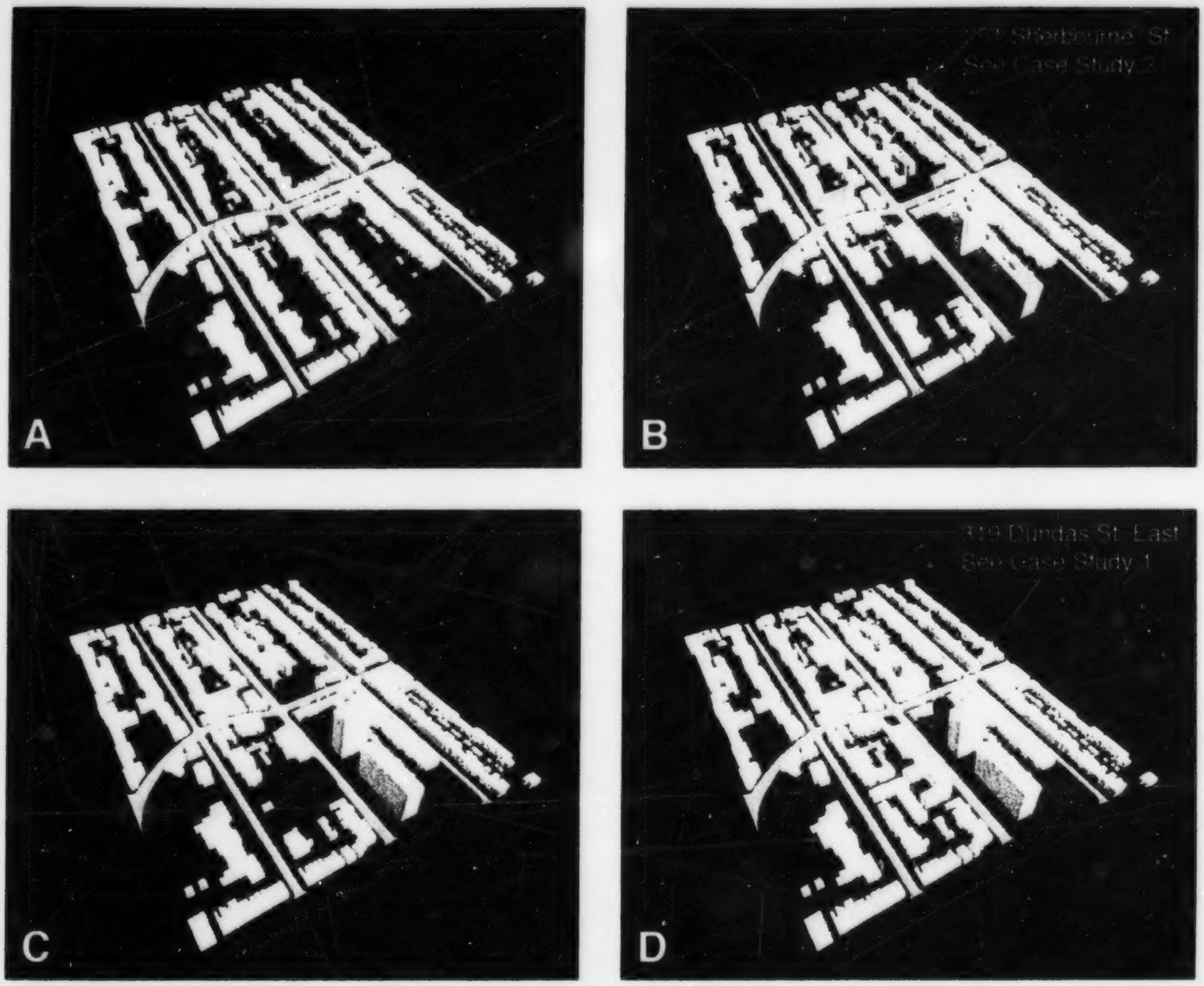




This series of diagrams takes a particular neighbourhood (Dundas Spadina, see Figure 17) as a base for illustrating the built forms that might accommodate different population densities.

A	2 860 persons/km²	average density of the GTA Urban Area
B	3 600 persons/km²	average density of the City of Toronto.
C	4 320 persons/km²	equivalent to the Central concept density in 2021 within the City of Toronto.
D	6 500 persons/ km²	average density of the former City of Toronto.
E	7 100 persons/km²	average density for the Central Area of Toronto.

Figure 11: Built Form Representing Various Densities

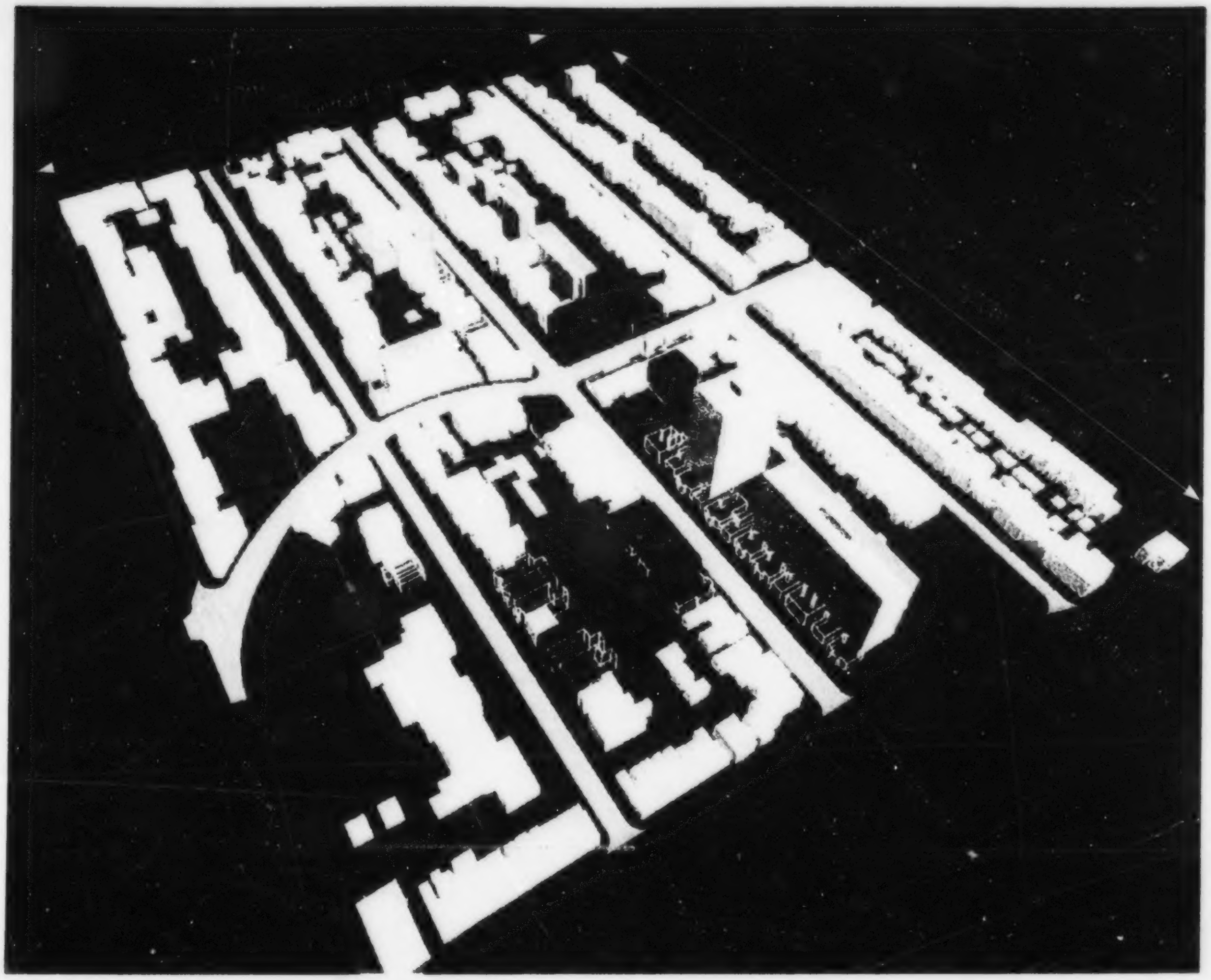


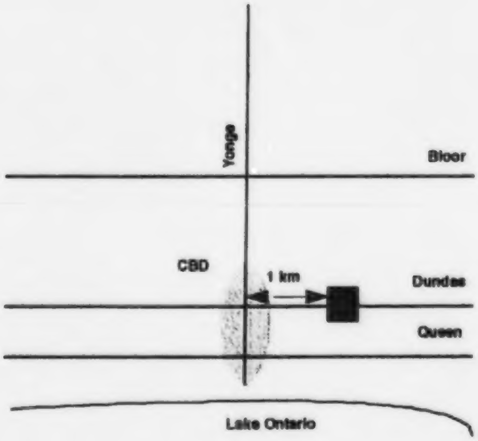
This series of diagrams illustrates the intensification of the Dundas Sherbourne neighbourhood over a period of 30 years. For more information about the area, please see Figure 13.

"A" shows the built form as it existed in 1967. the yellow buildings in "B" were added between 1968 and 1977. These include some high rises from the end of the urban renewal movement , but also a reaction against the neighbourhood destruction that came with it. Alternatives that were considered for 251 Sherbourne are shown in Figures 14 and 15.

The brown buildings in "C" represent the structures added between 1978 and 1987. Finally the blue in "D" illustrate the work from 1988-1997.

Figure 12: Dundas/Sherbourne Intensification



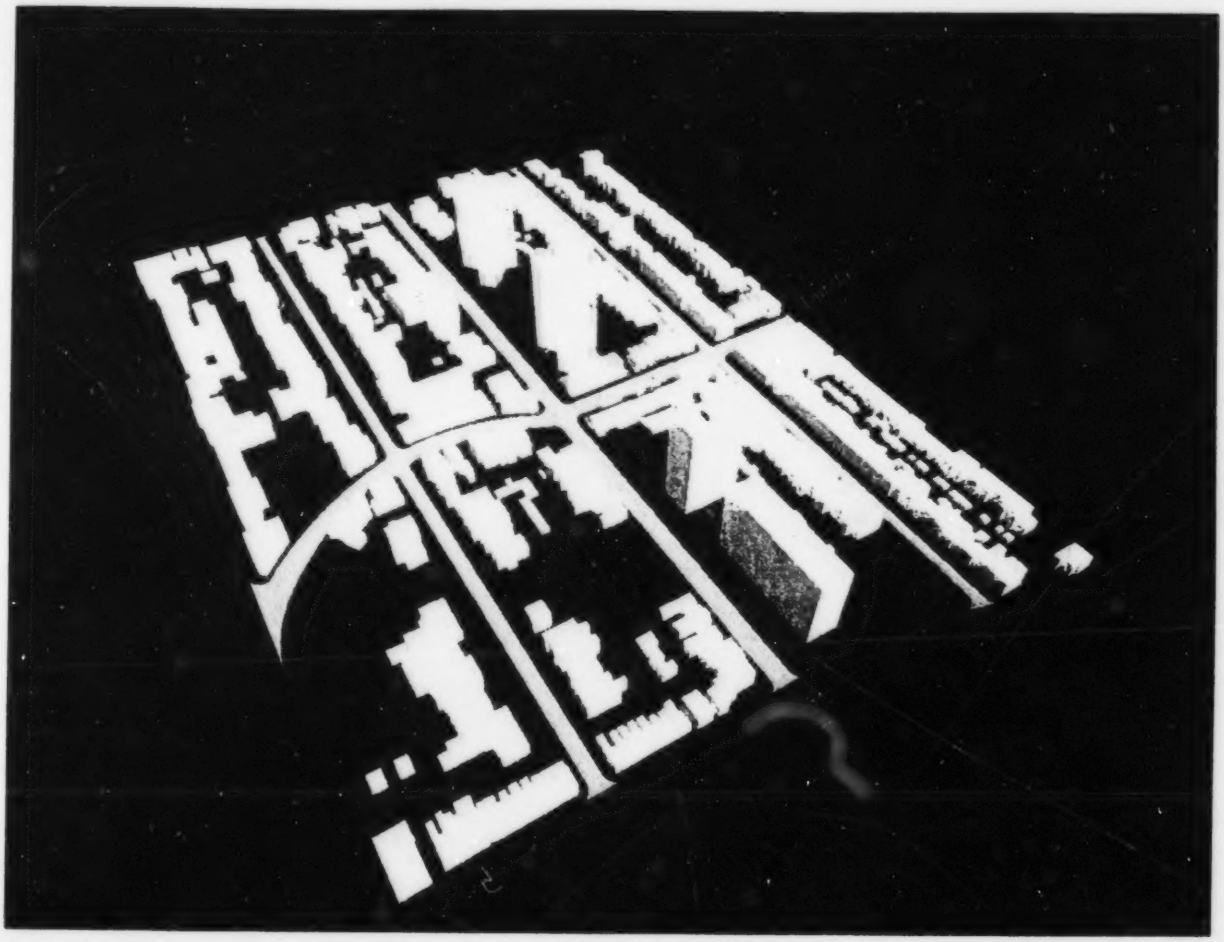


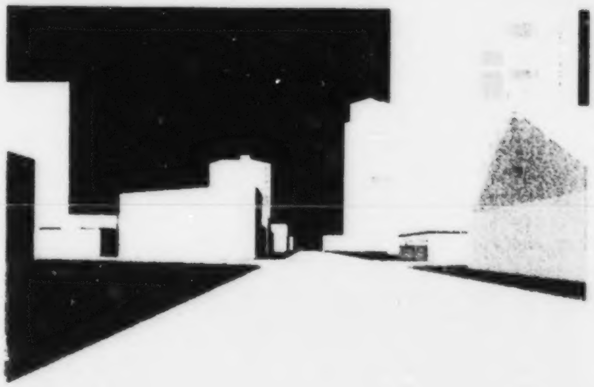
This is a composite illustration of the changes to the Dundas Sherbourne neighbourhood between 1967 and 1997 (white outlines represent buildings that were demolished).

Dundas Sherbourne is located just to the east of Toronto's Central Business District. It's residential built form ranges from "bay and gable" rowhouses to Victorian mansion (mostly subdivided). In the late '60s and early 70s modern apartments were built in the area as urban renewal projects

There is a high concentration of poverty in the area and many social service agencies concentrate their efforts in the neighbourhood. In contrast, there are also strong rate-payers groups that have resisted new housing in the area.

Figure 13: Dundas/ Sherbourne Intensification Composite



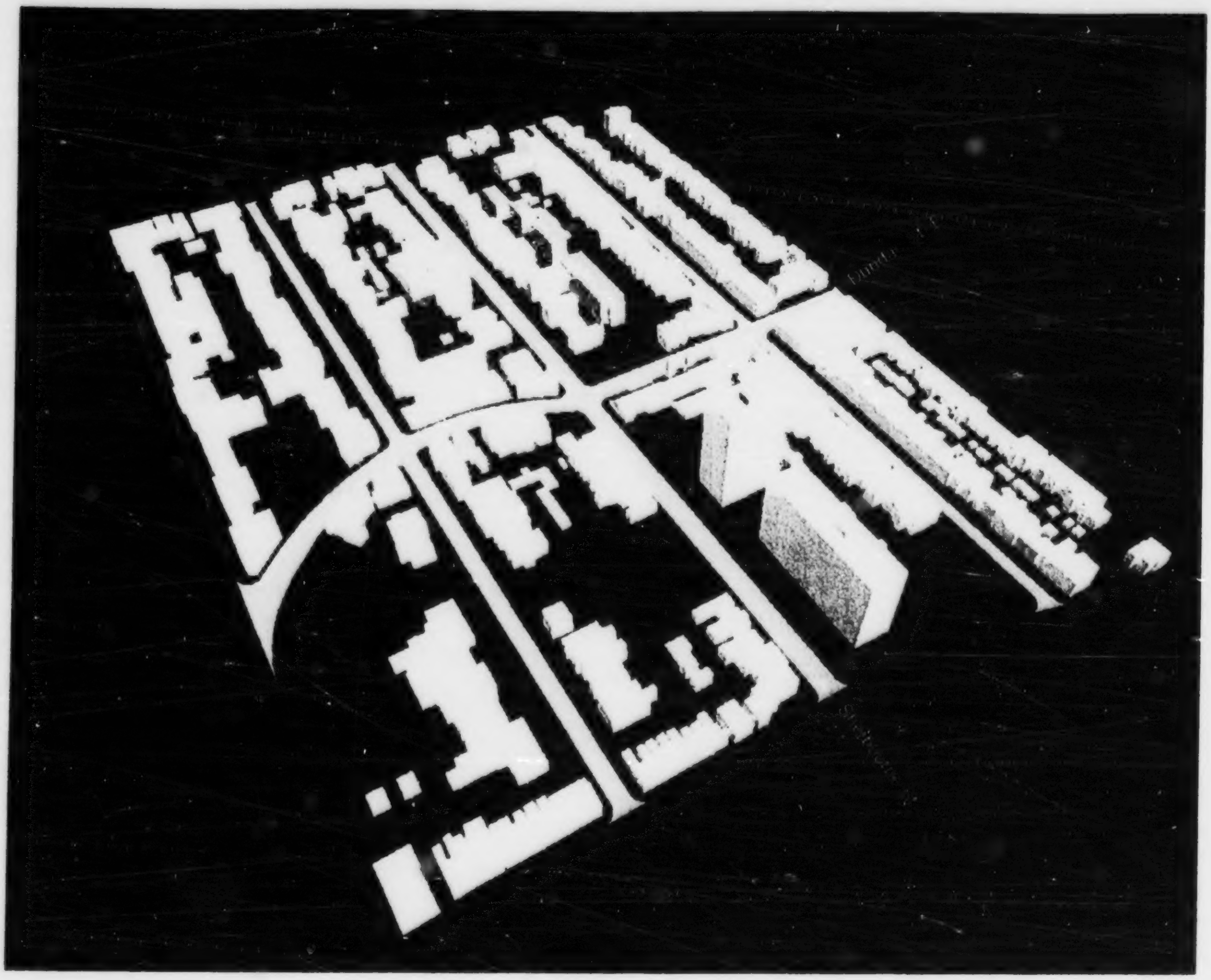


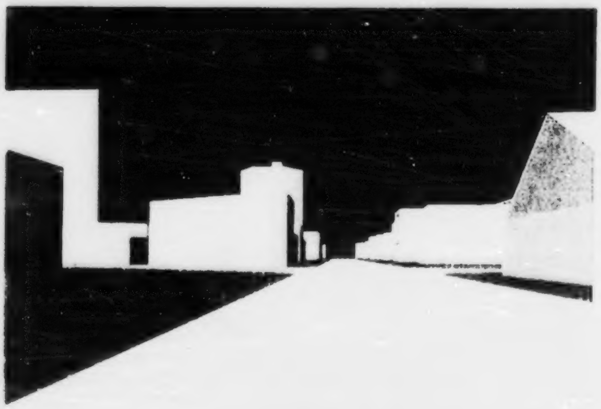
The illustrations on this page represent a proposal that was made to the City of Toronto in 1974. It would have continued the removal of low scale housing from Sherbourne Street, replacing it with high rises similar to those south of Dundas.

The developers proposed to demolish all the Victorian houses on the east side of the street and build two 29 storey towers. These computer illustrations show what the impact would have been.

The lower illustration is taken looking north on Sherbourne Street, just to the south of the church.

Figure 14: Dundas/Sherbourne Intensification Proposal 1 (1974)



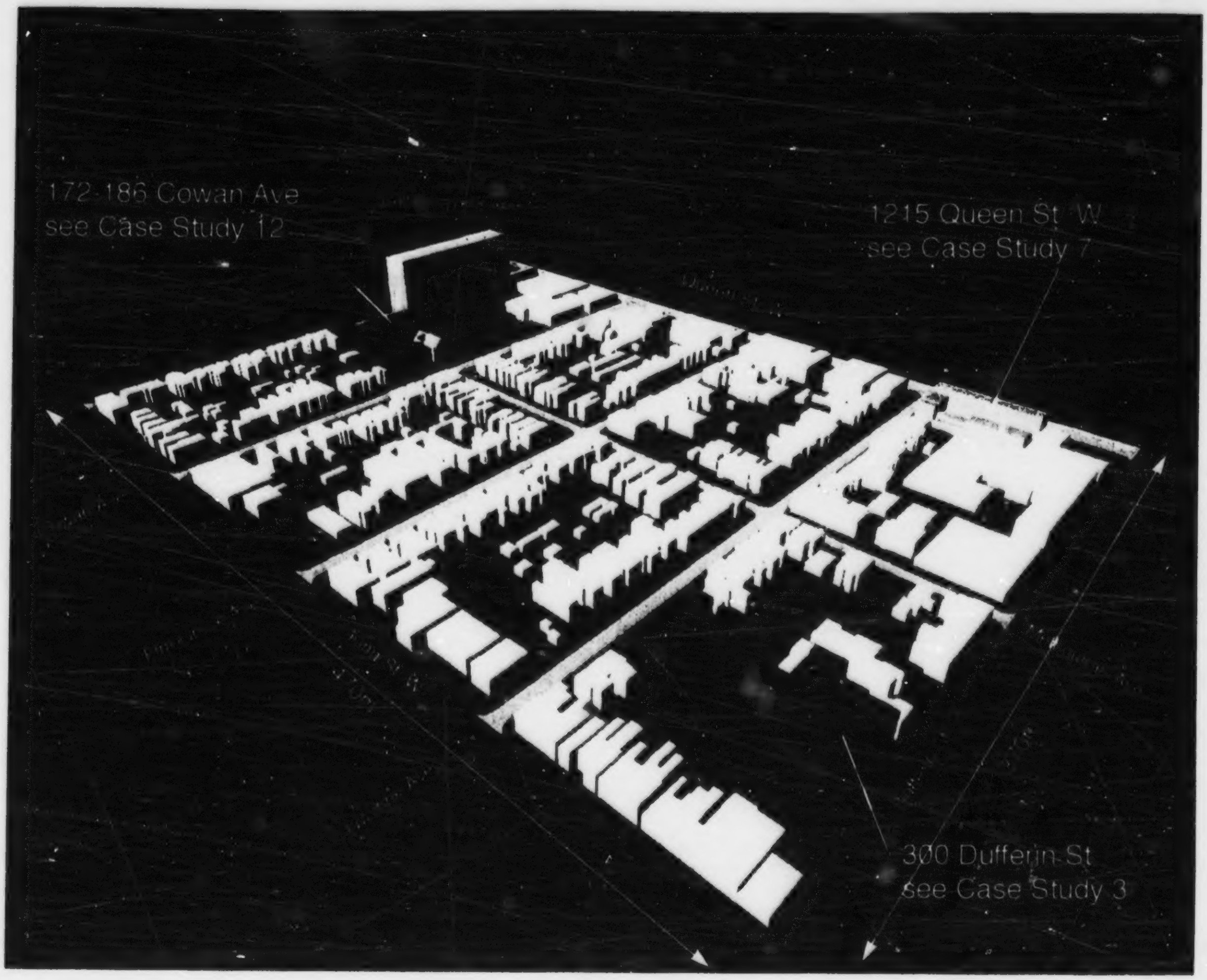


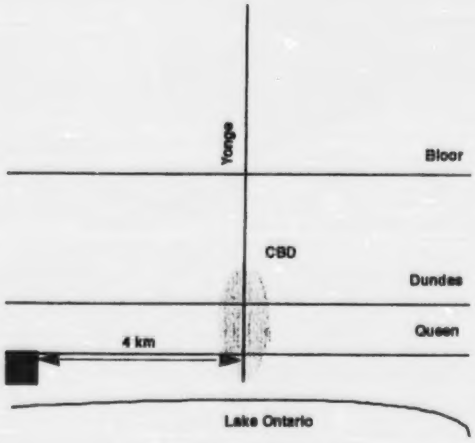
Neighbourhood opposition to the proposal shown in Figure 14 was strong and a local working committee was established todeal with the issues. The committee's mandate was to search for alternative forms that could accommodate the same population, but without destroying the character of the neighbourhood.

The built proposal, 251 Sherbourne Street (Case Study 2) is highlighted in yellow above. It retained all of the existing houses except one where the new development and access to parking came out to the street.

The lower illustration is taken from the same vantage point as the view in Figure 14. The new development is hidden behind the remaining houses, and can just be seen to the left of the church.

Figure 15: Dundas/Sherbourne Intensification Proposal 2 (1974)

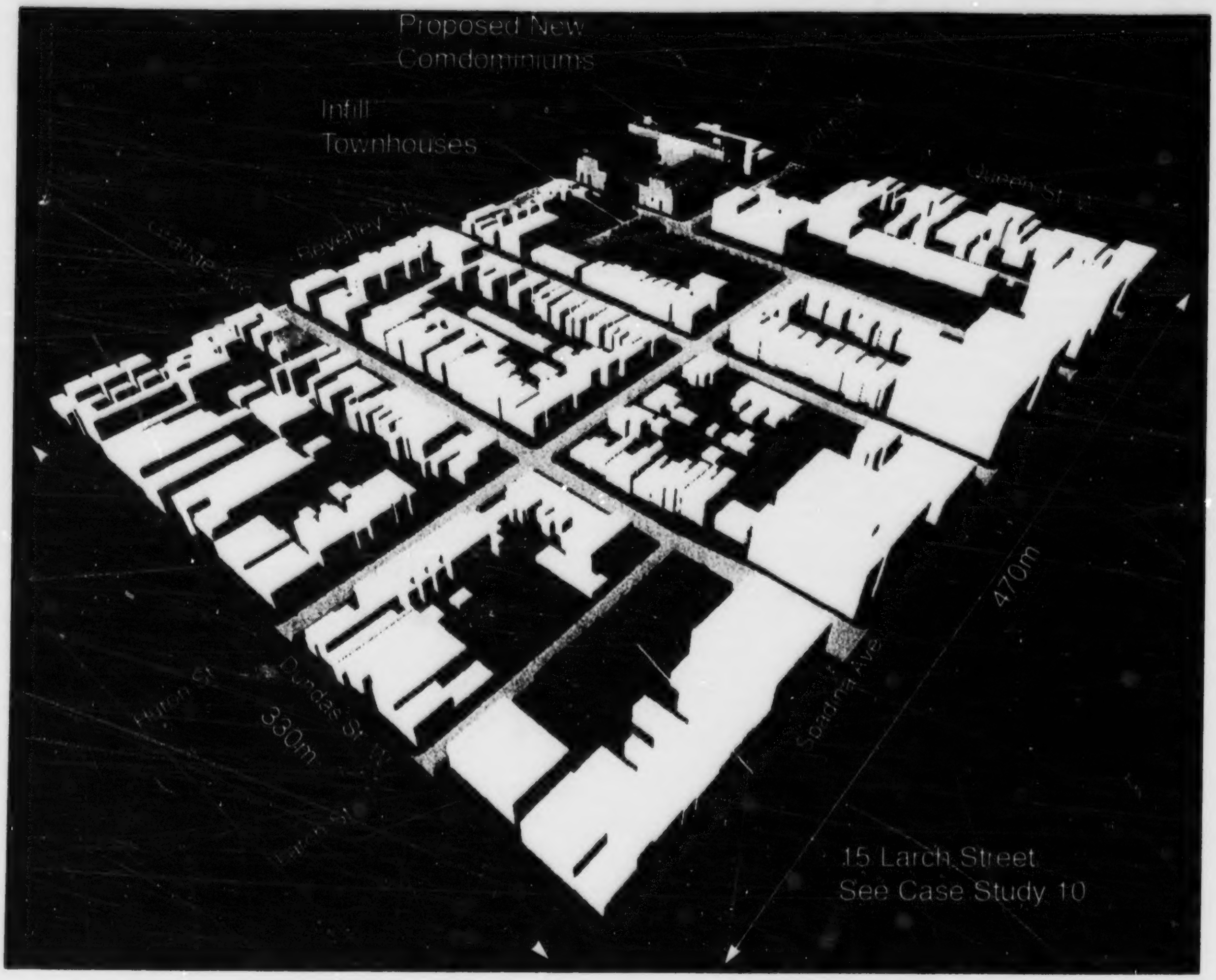

172-186 Cowan Ave
see Case Study 12
1215 Queen St W
see Case Study 7
300 Dufferin St
see Case Study 3

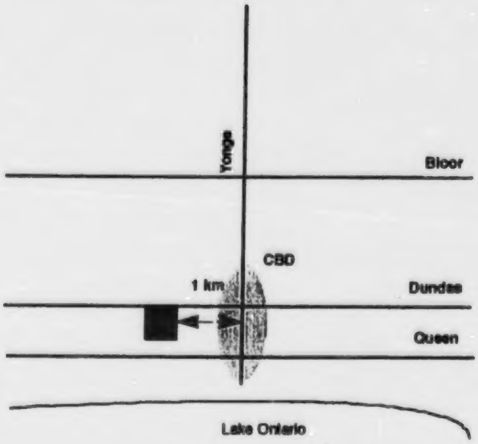

Yonge
Bloor
CBD
Dundas
Queen
4 km
Lake Ontario

Parkdale is a neighbourhood to the west of Toronto's core. Residential streets consist of a variety of house types from small cottages to large Victorian mansions (most of which have been subdivided) and modern apartment buildings. These accommodate a diverse population including a large proportion of low income tenants in apartments and rooming houses. The major streets are well served by transit. Typically they are lined with small scale commercial and retail outlets that serve the local residents.

Recent intensification projects have happened along the main streets. Please refer to the Case Studies for more details about the examples highlighted above.

Figure 16: Parkdale Neighbourhood Intensification


Proposed New
Comdominiums
Infill
Townhouses
Grange Ave
Beverley St
Queen St
Huron St
Dundas St W
330m
Larch St
Spadina Ave
470m
15 Larch Street
See Case Study 10


Yonge
Bloor
CBD
1 km
Dundas
Queen
Lake Ontario

The Dundas Spadina neighbourhood is located just to the west of Toronto's Central Business District. It is the centre of "Chinatown" and one of the densest areas of the city. Although most of the commercial and retail buildings on the main streets are low rise, hey are intensively used and the sidewalks are usually crowded with pedestrians. Spadina Avenue still has light industrial functions, housed in mid-rise structures.

The residential stock in the area is also low in scale consisting largely of row and semi-detached houses, many of which are subdivided. Recent infill intensification projects have attempted to fit in with this scale and intensity of use. Please refer to the Case Studies for more information about the Larch Street project.

Figure 17: Dundas/Spadina Neighbourhood Intensification

LESSONS LEARNED

The following question and answer section synthesizes interviews with key informants on intensification initiatives. Included in this section is an investigation of why intensification is necessary, where it has occurred, in what form, at what densities, what reactions have been generated, and what is the role of local governments and of review bodies like the OMB.

Why is residential intensification needed in urban areas?

Residential intensification is needed to limit sprawl outside the built-up urban area. This is especially important in light of recent trends toward the imposition of user fees and development charges that more accurately reflect the true costs of providing infrastructure and services. Some cities may also encourage intensification in order to increase the municipal tax base, to reduce gridlock by commuters from outside the city limits, to provide opportunities for people to both live and work close to downtown, and to ensure the vitality of the central city. Intensification also may help to reduce dependency on automobiles, improve energy efficiency, and make better use of existing transit lines, water and sewage facilities, schools, hospitals, libraries, parks, and other community facilities or amenities.

What form does intensification take?

Intensification takes a variety of forms. It is necessary to differentiate between older and newer projects, between those in central and non-central locations, between large and small developments, and between those on main streets and those on side streets. Not only overall density, but building bulk, height, and the nature of the built form vary according to these factors.

Some examples of the different forms of intensification are described below:

- Small scale intensification of urban areas: as property taxes, business taxes, and development charges rise, more development on expensive urban land can be anticipated in the form of small scale developments in the form of apartments over garages, granny flats, townhouse infill, accessory units, lofts, conversions from office or commercial or industrial uses, main streets development over retail uses, basement apartments, shared housing and other examples of infill which do not add (or only slightly add) to the existing "footprint" of urban development. The combined effect of these changes, however, can be significant. In Vancouver, for example, planners acknowledge that basement apartments make a substantial contribution toward the supply of affordable housing.

- Large scale intensification of urban areas: it is evident that large projects with considerable height, bulk and density, are typically found on large tracts near downtown. Some of the older projects were on large vacant parcels and thus were able to establish a new neighbourhood without encountering opposition. St. Lawrence Neighbourhood and Frankel-Lambert are prominent examples. Moreover, they did not have to contend with current site remediation requirements. Today, some large projects are planned or underway. Examples include Greenwood Race Track, the railway lands, and parts of the West Don Lands. A few large unused industrial lands still remain undeveloped. Examples include the Junction Triangle, and parts of the port industrial district. For the most part, this type of project is becoming more rare as the largest parcels have already been redeveloped and because land assembly is difficult and expensive. While this picture may vary from city to city, every municipality has some abandoned industrial lands which can accommodate large numbers of housing units and mixed-use development. Even so, one of the lessons of the past is that large monolithic projects are not acceptable; moreover, site remediation costs may be quite high on former industrial lands.

- Intensification in older low-rise neighbourhoods: as municipal taxes rise rapidly, older low-rise properties (such as one-storey bungalows on major arterials fairly close to downtown) will be redeveloped because the underlying land will be seen as too valuable (or too costly) to remain in a low-rise residential configuration. As owners age, many will sell out to developers because the owners need the funds to provide for their retirement years (see Case Study #4). If this phenomenon becomes relatively widespread (with an aging population), it is conceivable that planning agencies and bodies like the Ontario Municipal Board will relax their standards about the sanctity of "established neighbourhoods."

- Intensification of inner suburbs: the inner suburbs gradually will be intensified by infill condominiums and apartments in response to rising demand from seniors and empty nesters who want to be relatively close to the city centre, or close to relatives, to community services, and to the area where they have lived for many years. There is considerable scope and demand for this type of intensification (see Case Study #8). Some examples of this form of redevelopment are evident in inner suburbs where older housing units are being replaced by apartments or townhouses in denser configurations.

Where does intensification occur?

Intensification projects are in all areas of the city and virtually any neighbourhood may be considered suitable. Concern has been raised by certain residents about the siting of intensification projects. Some fear that infill projects will, like social housing, be highly concentrated in those poorer areas of the city which lack political clout. Some individuals are concerned that infill will result in gentrification and an increase in housing prices. Others voice fears that the influx of new and different people into established neighbourhoods will either drive their property values down or eventually force existing residents to move. Ratepayers' associations have been particularly vocal with their concerns (echoed by local politicians) about intensification projects and have strongly opposed these developments. As a result, older, established and relatively wealthy parts of the city are less likely to experience infill except at a very small scale.

Certain areas of the city then (as illustrated by the location map in Appendix A accompanying the case studies) are more likely to be the focus of intensification efforts; perhaps because of an existing concentration of low income or social housing or a number of high density precedents or because they are subject to redevelopment (as the population and the housing stock age to the point where replacement makes economic sense). On the other hand, certain intensification projects (especially if they involve housing for seniors) will find acceptance in all districts (see Case Studies #5, 8 and 12).

Denser urban neighbourhoods are not only for low income households. Intensification is not limited to assisted housing. Many projects being built in the urban core and inner suburbs are intended for relatively affluent households who buy condominiums or lofts. Some intensification in the recent past (as shown in the Case Studies) has provided housing for the other end of the income spectrum -- low income renters. Though certain intensification efforts are providing units for middle income households (see Case Studies #6, 11 and 14), these are in a minority.

Areas on the urban fringe are also being intensified. For example, the Region of Peel, which is a receptor area for immigrants, has built more than 5,000 units of social housing; most of these developments can be characterized as intensification projects.

Characteristics of neighbourhoods most suitable for intensification include the following:

- Ready access to downtown, jobs, and community services; see Case Studies #1, 2, 10, 11, 14 and 15.
- Proximity to a number of major arterials with transit lines; see Case Studies #1-8.
- An existing concentration of mixed-uses and a mix of residential building types; see Case Studies #1-8 and 10, 11, 12 and 15.
- High density residential precedents, often in a mixed-use development pattern; see Case Studies #10 and 12.
- An older population and dwelling stock which makes them subject to redevelopment pressures; see Case Studies #4, 9, 12, 13 and 16.

Will intensification provide appropriate housing when and where needed?

While the city is being intensified and urban jobs are being created, the benefits of these trends are not necessarily allocated in an equitable manner. Intensification may take the form of gentrified developments, small lofts, or expensive condominiums. As demonstrated in the attached case studies, the typical pattern of intensification is to replace a vacant building or lot, or a few low density residences, with a very substantial number of housing units. This helps to bring more people to the city, but it also may result in displacement either directly, through demolition of existing buildings, or indirectly, as gentrification may drive up property values and increase taxes beyond the reach of sitting tenants and low-income owners. Moreover, many of the people most likely to live in the city of the future, apart from relatively affluent condominium or loft owners and empty nesters, are low income individuals who require low cost housing close to their place of work. For most of these people the form of housing being provided in many intensification projects is not suitable in terms of location, size (e.g. small condominiums or lofts), configuration (e.g. high rise) or price. Intensification efforts, then, must address strategies to develop social housing or low-cost units.

What are acceptable densities?

Density varies dramatically by location. In the heart of the city, high densities (dictated in part by land values) are commonplace and accepted. Much lower densities are considered acceptable in the inner suburbs. Thus, the concept of "acceptable density" is a relative one. It depends not only on location but also on such variables as building height, project size, number of dwellings per entry, and the profile of the tenants. In the St. Lawrence Neighbourhood, for example, high densities (90 units per acre; 225 per hectare) were achieved successfully because the size of residential projects was limited to about 100 units, and the number of dwellings per entry was kept to a level where all residents can recognize one another. Moreover, families with children generally are placed in townhouses, row houses, and grade-related units. In addition, each building is distinctive and the notion of mixed-use zoning was applied throughout the project, thus allowing for a full range of activities within walking distance of all residents.

What are the factors affecting receptivity or opposition to intensification?

Several factors impact on the receptivity or opposition to a proposed intensification project. The perception of a project depends on several factors including:

- "Fit" with the character and stability of the surrounding neighbourhood. For example, Case Study #5 shows that keeping building heights consistent with the surrounding neighbourhood can help ease neighbourhood opposition to a proposed development.

- Physical impact of the proposed development in terms of privacy, overview, shadowing (blocking sunlight or views), traffic generation, and parking.

- Sponsor of the proposed development: neighbourhood reaction to a proposal from a church group may be quite different from a proposal initiated by a city housing agency.

- Associated uses of the proposed development: projects which have commercial uses may be favourably received if they add shopping opportunities in the neighbourhood. They may, however, generate a negative reaction if such uses are likely to create noise or traffic or if they present parking problems for existing residents (see Case Study #7).

- Nature of prospective tenants: a milder reaction might be expected to a proposed development for seniors or families than for singles, consumer survivors, or a group that is different from those common in the neighbourhood. For example, Case Studies 4, 5 and 12, which offered housing to seniors, received minimal neighbourhood opposition, while Case Study 7, which offered housing to consumer survivors, and Case Study 16, which offered housing to First Nations peoples, encountered strong neighbourhood opposition.

- Nature of the existing development: the proposed development will likely receive minimal resistance if the proposed use is perceived as an improvement over an existing nonconforming use that is seen as an eyesore in the neighbourhood. For example, Case Studies 5, 9 and 11 replaced a disused factory, industrial building, and warehouse, respectively; as a result, all three were well received.

- The age of neighbourhood housing stock and residents: the older the residents are, the more established and resistant to change they are likely to be. In general, the older the housing stock, the greater is the pressure to redevelop in a denser, more "economic" form. This is exemplified in Case Study #4 where the older bungalows along a major arterial are subject to increasing pressures for more intensive redevelopment.

- Cohesive character of the surrounding neighbourhood: factors such as tenure, homogeneity, length of residence, or ethnicity, may form a strong bond among existing residents, whose associations may oppose development. Working groups may be established to help ease opposition to proposed developments. For example, in Case Studies 2 and 3 working groups were formed to facilitate consultation and to minimize neighbourhood opposition.

- Extent to which the neighbourhood is self-contained, demographically homogeneous, small in area, and demarcated by boundaries (such as ravines, major arterials or bodies of water) is likely to amplify the perceived or anticipated effects of redevelopment.

- Impact, real or perceived, of the proposed development on existing social and community services. In Case Study #8, although the 5-storey building with 110 units is dramatically different from the immediate neighbourhood, the project was accepted because it is occupied exclusively by seniors, most of whom do not own cars, and who do not represent a drain on community facilities.

All of these factors may be contained within the notion of "compatibility" which is central to the acceptability of intensification projects.

What is meant by "compatibility" ?

Various attempts have been made to determine the compatibility of proposed developments with existing neighbourhoods in terms of design, streetscape, number of units, height and configuration of buildings, and the bulk or massing in relationship to existing buildings in the immediate vicinity. The complexity of this issue is illustrated by the definitions provided by the City of Toronto and the Ontario Municipal Board.

The City of Toronto's *Urban Design Handbook* indicates that design harmony can be achieved by ensuring that the siting and massing of new buildings is appropriate in relation to neighbouring development; this is particularly important with respect to projects adjacent or close to listed or designated historical buildings, streetscapes or landscapes (*Urban Design Handbook*, September 1997, City of Toronto, Urban Development Services).

In the OMB's view, compatible means being mutually tolerant and capable of existing together in the same area. Being compatible with does not necessarily mean "the same as" or even "similar to." Compatible means nothing more than being capable of coexisting in harmony.

The OMB states that it has seven tests for compatibility:

- The proposal does not countenance other such actions in the areas where similar proposals can be brought forward...
- The proposal is not quantifiably so different as to virtually compel the others in the area to conform through expensive rehabilitation and/or redevelopment, or leave the area, even though the proposal meets all the requirements of by-laws and regulations...
- The proposal in and of itself is not so singular compared with the existing development in the area that it is an anomaly, even when there is no potential for others to follow...
- The proposal does not either diminish property values or decrease the rate of increase of property values in the area by increased activity...[11]
- The proposal does not impose psychic costs on the people in the area by increased activity which reduces the enjoyment of established amenities such as views, sunlight, quiet and privacy...
- The proposal fills in a gap and completes the full expression of the prevailing character of the area...
- The proposal remedies a deficiency in existing development... in order to make the existing development complete.

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[11] The Board apparently does not take into consideration those situations where new developments increase property values and thus place sitting tenants and property owners at risk of increased rents and property taxes.

What has been the role of review bodies like the Ontario Municipal Board in intensification efforts?

A number of projects included in this study have been subjected to intense scrutiny, protracted delays in seeking planning approvals, and, in some cases, appeals to the Ontario Municipal Board (OMB). Delays are almost inevitable if proposed developments require variances (usually for density, building height, setbacks, or parking) as this subjects them to challenges on planning grounds. In some instances (see Case Study #7) the procedural problems and delays are so costly that the project, though approved by the OMB, is never built because project funds were depleted by legal battles.

While it appears that the OMB accepts the need for social housing, and recognizes the centrality of the issue of intensification for such projects, it has failed to provide clear guidance. In two recent cases in the same west-end district of Toronto, the Board rendered conflicting decisions:

In one case, the Board approved a development of 8 storeys and 2.35 times density on a side street while in the other, [the applicant] had to negotiate a development of 4 storeys and 2.17 times density on a Metro arterial road. In both cases, height and density were major issues. In another case, [the applicant] lost its appeal where the one times density conformed with the Official Plan but the OMB found that "the changes to the community made through the proposed zoning by-law would be out of keeping with the character of the area...the development...would have an adverse effect upon the stability and general residential amenity and character of the existing low density residential area." However, a similar development (1.4 times density and 3.5 storeys) was recently approved by the OMB. (Fraser and Beatty, "Current Social Housing Issues Before the Ontario Municipal Board," by Paul Ginou, June 24, 1993, Toronto, p. 2)

In a related case, the OMB found that "...the site itself, with proper design and engineering, is appropriate for the use at the scale proposed...[and that] no adverse impacts in terms of shadowing or traffic congestion" could be discerned. Nevertheless, because the Board discerned a small impact zone and a high number of proposed units relative to the total number of units in the impact area, it turned down the proposal on the grounds "that the proposed development would dominate the community instead of integrating with it." (Ibid.).

On the other hand, the OMB approved development on a 20-acre abandoned industrial site (Goodyear) which included 1,799 dwellings units (685 of which are social housing). While the Board found that the density of development was greater than the surrounding area, it concluded that the project design would ensure that "...the proposed development would become integrated into its surroundings." (Ibid., p. 3).

What has been the role of local governments in intensification efforts?

Traditionally, planners and zoning officials reacted to development proposals; they adhered strictly to by-laws and customarily said "no" more often than "yes." Their role was to uphold high standards and to ensure the preservation of the public interest. The gradual accretion of by-laws to enforce standards, however, resulted in a maze of controls and regulations, often of a highly detailed nature. The planning system is a complex, opaque one, predicated on seeking approvals, and establishing a "paper trail" through the thicket of building regulations. Planning tools (zoning, subdivision controls, and site plan or development review) are blunt instruments. Designed to assure a rational and coherent system of infrastructure and facilities, the planning system is process-oriented, based on paperwork and intricate procedures, and geared toward securing approval. In doing so, it gives enormous weight to single-purpose interests and favours separation of uses. It is reactionary, well designed to preserve the status quo, and ill equipped to change quickly in response to new circumstances.

Despite these shortcomings, the planning system *can* be employed as a useful tool to revitalize the city, to encourage appropriate development, to enhance and rejuvenate deteriorated districts, and even to create jobs. In order to do so, planners and public officials must be willing to change outdated zoning or building codes, to modify parking requirements, to approve higher densities where appropriate, and to see intensification initiatives through in the face of neighbourhood opposition. An example where this is occurring is in "the Kings" areas of Toronto.

The districts of King-Spadina and King-Parliament, representing the "shoulders" to either side of downtown Toronto, provide a useful case study of planning and intensification. During the 1980s municipal planners for these districts clung tenaciously to the secondary plans which specified that industrial jobs were to be preserved. No new non-conforming development was allowed, despite the evident lack of industrial demand for old warehouses, breweries or factories. Gradually, small enterprises like graphics art firms surreptitiously filled these old industrial spaces until the districts began to emerge from dormancy. In 1996 the city council passed a plan to deregulate land use in the two districts, allowing for the conversion of warehouses to "live-work" spaces in the form of condominiums, offices, studios, and lofts. Working and living in these spaces had been illegal prior to 1996. The plan revision focussed on the buildings rather than their interior uses; the incentives included expanded land use permissions, zoning as-of-right, elimination of density controls, and reduced parking requirements. These changes precluded the need for time-consuming and expensive site specific applications which were widely viewed as a disincentive to development. Design guidelines were used in place of zoning to encourage creativity and to ensure that development fit with historic sites. Other guidelines were introduced to provide for sufficient sunlight, pedestrian lanes, and appropriate building scale. In the first two years after this initiative was announced, 16 applications for development were received, $18 million in building permits were issued representing 355,000 square meters of floor space, full-time employment increased by 8 percent in King-Parliament and by 11 percent in King-Spadina, and more than 2000 new residential units were in process. The result has been a rejuvenation of these districts, injecting new life into what had been declining or neglected areas close to the city's core. This example demonstrates that planning controls can be flexibly administered, that live-work spaces help the near-downtown area by creating jobs and by increasing the residential population, all without enlarging the development footprint on the ground.

How have parking requirements affected intensification efforts?

Parking, one of the linchpins of the zoning system, is considered by many as the greatest stumbling block to achieving more intensive mixed-use development. Parking requirements in Canadian cities are stringent and have enormous impacts on development costs, particularly when stalls must be constructed underground. One of the greatest impediments to main streets intensification is parking. Early on, planners insisted on adherence to old standards. Some realized, however, that because on-street parking was available, standards could be relaxed. When they sought to implement these guidelines, though, certain ratepayer groups resisted; typically, these were in relatively well-off neighbourhoods outside of downtown. There was little opposition from districts close to the city centre because they were accustomed to on-street parking. This opposition resulted in a reversion to earlier, more demanding guidelines, which had the effect of stopping projects because of high costs.

Subsequently, though, circumstances changed. The only development occurring in recent years is private, and developers are finding that, when they require unit owners to buy a parking stall, only about half are doing so. The other half either do not own cars or they opt to park elsewhere. As a result, developers are petitioning municipal officials to reduce parking requirements. They point to some seniors' and co-operative projects in the city which have no parking, not even for visitors; yet they have not generated complaints. The 1990 Marshall Macklin Monaghan study found a correlation between tenure and car ownership: the average rental household had 0.5 cars while owner-occupied units had 1.16, and the numbers for seniors' projects and assisted housing were lower than these averages.

Many urban planners have supported the concept of flexible parking standards to take into account tenancy, location relative to transit, and area specific needs. In some cases (social housing or seniors' housing close to the downtown core, for example) parking requirements have been eliminated, thus making the provision of affordable housing much more likely. Other plans include payment-in-lieu of parking stalls, benefitting assessment (where landowners share costs of a central parking facility based on proximity and benefit), on-street parking, the surplus parking concept (spaces used during daytime hours by workers and by residents at night), or the provision of laneways to offer parking in the rear of buildings. Reductions in parking standards may be regarded by planners and developers as an incentive to encourage projects; at the same time, neighbours may perceive any lessening of standards as a disincentive.

What incentives and disincentives have been employed by governments?

Public policy and regulations on intensification must include both "carrots" and "sticks." Incentives may be required to encourage projects in an appropriate form, size and location. Policies and regulations are essential as well to discourage massive, monolithic or inappropriate developments where they do not fit. Comments from public officials, planners, urban designers and developers in a variety of municipalities are summarized here in the form of examples which illustrate the possible array of carrots and sticks.

In 1997 a secondary plan for vacant industrial lands (Massey-Ferguson) was superseded by more flexible and market-oriented policies that permit three times density for industrial, institutional, residential and commercial development as well as live/work uses. Municipal planners extracted agreements from the developer regarding the retention of an historic building, the conveyance of a park (subject to environmental studies being completed prior to transfer), public art, and grade separation of a rail crossing. The developer was required to reduce building heights permitted under zoning by-laws in order to ensure compatibility with an existing residential neighbourhood. Planners recommended to Council that the developer address their concerns regarding pedestrian circulation, views, and surface parking as well.

In other situations involving lands zoned for industrial use in areas where there are large, established residential neighbourhoods, trade-offs have been made with developers to reduce permitted density in exchange for lower parking ratios (where the location is well-served by public transit). Rezonings of this sort may encourage developers to seek out lands for intensification or infill. In one case land owned by the municipality was traded to facilitate mixed-use and residential intensification and to ensure that community facilities were provided in an appropriate location.

A few of the case studies cited in this report offer examples of residential intensification by using existing industrial buildings in established neighbourhoods. One, Case Study #9, in an older section of Toronto, replaced what was formerly an industrial building (classified as legal, non-conforming) to create 18 social housing rental apartments at a density of 1.79. The municipality granted variances for height (3 storeys instead of 2) and density (1.79 instead of the norm of 1.0). In addition, the parking requirements were reduced (3 spaces instead of 18) because of the nature of the tenants and the site location close to public transit. Another example, Case Study #11, involved the conversion of a warehouse to residential at a density of 1.5. Variances were provided for height, density, setbacks and building depth. In both cases, opposition by neighbours was minimal because there was no change in the built form. Many examples are available as well of conversion from industrial or commercial to loft-condominiums at high densities. These generally do not encounter opposition except when they are in an already established neighbourhood and existing residents fear gentrification or an influx of outsiders who are perceived as being dramatically different from long-term residents.

Financing and zoning may be viewed as incentives or disincentives, depending on one's perspective. A key to intensification of small properties is as-of-right zoning which simplifies the approvals process and saves confusion, time and money. Many small property owners lack the funds, expertise or commitment to see a conversion or development through to the end; this is particularly true when they face requirements for zoning changes, variances or amendments. The levy of development charges also should be flexible so that intensification projects are not charged more for achieving higher densities. The 1993 Kanter study recommended marginal cost pricing to reflect different costs of various locations; marginal cost pricing would ensure that lower income areas are not averaged in with higher income areas. Kanter also recommended that assessment practices be changed so as not to discriminate against medium density projects.

Many of the public perceptions about intensification are based on fears of overcrowding, parking problems, decline in property values, and anxiety about neighbourhood change. These fears are based on developments over the past several decades of high-rise apartment buildings "plunked down in communities of two- and three-storey residences. Neighbours feel overwhelmed by the size of these building and the sheer anonymity of the design." (Silversides 1992, p. 22) There is no doubt that excess density and lack of compatibility can destroy the attractiveness of neighbourhoods. The combination of several of these factors can act as a disincentive to intensification.

In the case of Toronto's Main Streets program the effect of neighbourhood opposition was to weaken the incentives that were part of the initial proposal (as-of-right zoning, reduced parking standards, heights, densities and setbacks). Planners in many municipalities are attempting to avoid this scenario. They emphasize that one of the objectives of intensification is to increase the amount of housing in residential areas in subtle yet meaningful ways. Second units, accessory apartments, mews or alley housing and granny flats can be developed inconspicuously. However, initiatives of this nature require sensitive and cooperative developers who, in turn, must be enticed with incentives.

In a few recent cases developers who were denied approval of large, extremely dense or bulky projects that are incompatible with existing neighbourhoods have taken the municipality to the OMB and have won project approval. This is an extraordinarily expensive and time-consuming process for municipal planners; it might be avoided if zoning and building controls are relaxed in favour of more flexible urban design guidelines.

Among the incentives proposed to assist with housing production, particularly of affordable units, are the following:

- Provide provincial and municipal grants to aid property owners in residential conversions.
- Make better use of huge numbers of empty bedrooms in existing houses (Task Force on Roomers, Boarders and Lodgers, 1986).
- The *Land Use Planning for Housing Policy Statements* (1989) in Ontario directed municipalities to amend their Official Plans and zoning by-laws to allow for residential conversions.
- In 1992 municipalities in Ontario were prevented from prohibiting second units if they met building and health codes.
- More recently, municipalities were urged to encourage joint commercial/residential projects between non-profit housing corporations and private entities, and recommendations were made for more lenient zoning and occupancy by-laws (Berridge Lewinberg Greenberg, 1991).

In Toronto the City has offered a number of incentives to encourage affordable intensification projects:

- A how-to guide for property owners contemplating residential conversion.
- A density bonus of 25 percent for social housing projects.
- A requirement that 25 percent of large new residential developments be set aside for affordable housing.
- A conveyance of land or cash payment-in-lieu, or a combination of both, from large market housing or financial district projects in order to create social housing.

In other cities a number of innovative schemes have been initiated to provide incentives for intensification and affordable housing:

- Vancouver legalized existing secondary suites and encouraged new ones.
- Quebec City has a subsidy program for new or recycled building to encourage new housing in the central area and the conversion of existing buildings for residential use.
- Winnipeg has a revitalization program to encourage central area rehabilitation and infill.
- Montreal's acquisition of rental housing program facilitates collective home ownership and rehabilitation of existing buildings. (Canada Mortgage and Housing Corporation, *Municipal Initiatives in Affordable Housing*, 1993).

RECOMMENDATIONS

Governance and Planning

Instability in the public sector, unresolved questions about taxation and user fees, and changes in "who does what" all create anxiety and uncertainty among residents. Some of the principal issues that must be addressed to encourage urban revitalization include funding and taxation, the regulatory climate, infrastructure, and the provision of affordable housing, as well as job creation.

Residential intensification will provide savings in infrastructure and other costs associated with typical suburban sprawl developments. Nevertheless, development in the existing built-up area is expensive, and it is inevitable that urban revitalization projects will incur user fees in the form of development charges. The present fiscal climate, however, presents additional challenges. The recent amalgamation in Toronto may entail tax increases for businesses and properties in the City, which will give outlying areas comparative advantages.

Provincial downloading places a considerable fiscal burden on municipalities. However, the older urbanized areas, especially the City of Toronto, must recognize that increasing rates of taxation, in comparison to suburban municipalities, will work against any efforts at revitalizing and intensifying the city. Continued rises in tax rates may well exacerbate existing income polarization in the city (as middle income families opt for the suburbs) and could be counter-productive in the end, as they tend to discourage investment and in-migration. Many American cities have already gone through this process and the deleterious effects of suburban flight are well known. Toronto and other Canadian cities must avoid this unfortunate cycle.

Infrastructure in the city is old and may need to be upgraded/enlarged. This requires planning, allocation of capital budget, and time for construction, which means that intensification must be a long-term process, carefully planned so as not to disrupt budgets or the local populace (in the case of highway or transit construction, for example).

There are institutional and regulatory barriers to urban intensification that must be addressed. Not all municipalities are enthusiastic about this task. Some modification of codes is necessary to make urban intensification successful. Existing housing must be adapted to changing populations and needs. Adaptation of this sort will require some flexibility on the part of communities, local politicians, and bureaucrats.

Another issue affecting urban intensification is neighbourhood opposition in the form of NIMBYISM (Not-In-My Back-Yard). Many people associate relatively dense urban development with traffic congestion, parking problems, noise, crowding, cheaper housing, crime, and an influx of low-income people (perhaps from a different ethnic group). This attitude can be overcome; but it will take time and requires the effective use of successful projects as salutary examples. The cooperation of local politicians also must be earned. Social housing developments in recent years have experienced significant delays because of neighbourhood opposition. The inherent tensions in community involvement raise the possibility that such processes encourage neighbourhood opposition and NIMBYism.

Housing

Even if intensification is encouraged by local governments, there are still obstacles which must be overcome. Urban land is expensive and many sites require soil remediation. Construction costs and housing standards in urban areas are high. It is difficult to provide rental housing at rents that can be afforded by the people who represent the greatest demand: seniors, single adults, immigrants and single parents. As a result of this trend, as well as legislative changes in landlord-tenant regulations, demand for rental units in the City will remain high.

A large percentage of Canada's low income population is located in the cities; about half depend on government transfer payments for their income. To meet the housing needs of this population, affordable housing must be made available. New construction, conversion, or changes in legislation, such as to legalize basement apartments or to minimize parking requirements for downtown or main streets projects, offer some solutions.

Affordable housing provision requires some involvement by governments. With cutbacks in social and affordable housing programs it will be difficult to provide affordable rental housing in cities, where there is the greatest demand, where developable land is expensive, and where planning and development standards are high, and costly delays are common.

To avoid polarization of haves and have-nots, where only the wealthy can afford to live downtown, affordable housing and related services/facilities for low and moderate income people should be provided in the urban core. Intensification projects should be reasonable in size, compatible with the existing neighbourhood, and should be scattered throughout the urban area. A full range of housing types, a full mix of uses, and the integration of an increasingly diverse multicultural population, while allowing new arrivals to maintain their identities, should be encouraged. Increasing signs of affluence are evident in the city centre; examples include rapidly rising costs of rents and taxes, and the price of tickets to sporting, arts or entertainment events. In light of this trend, it is important to maintain and enhance access to the city's heritage of museums, art exhibits, cultural events, and especially the open spaces (like picnic parks) which are heavily used by low income households and recent arrivals in the city.

There is no need for tower blocks or mega-projects as part of efforts to revitalize the City. New development, with the exception of a few large former industrial tracts, generally will be small to moderate scale infill, which respects the surrounding grid, and either mimics or makes a smooth transition to the height, bulk, nature, and configuration of existing neighbourhoods in the vicinity.

If recent trends continue, an increase in the number of low-paid service jobs, immigration, and growing social/ethnic diversity in the urban population, there is a likelihood of local opposition to new housing projects. It becomes important, then, to minimize the scale and visibility of new housing, to emphasize design quality, to blend in with existing neighbourhoods in terms of height, building configuration and street pattern, and to streamline approvals processes to minimize time delays in cases where there is still neighbourhood opposition.

It is not sufficient to simply allow mixed-use. Planners must encourage a diversity of complementary uses. Houses, shops, offices, public transit, parks, schools, restaurants and grocery stores all can co-exist within the same neighbourhood (even within the same building) and can support one another.

Both housing and office/commercial can be low rise but built in relatively dense configurations; the latter should be concentrated along major arterials, near public transit.

Given recent demographic patterns (toward smaller households), current affordability problems, the source of new population (immigrants), and continued trends in the job market (part-time, low paid service jobs), it will be necessary to re-examine housing standards and expectations and to change restrictive by-laws to permit in-law apartments and alley houses, for example. Smaller units will become more commonplace, not just for new arrivals, but because household sizes are much smaller now than a few decades ago. Similar trends toward smaller households are evident across Canada.

Employment

A key component of urban revitalization is the need to create jobs in the city, in addition to providing housing that workers can afford. Cities need about 1.5 jobs for each dwelling unit. It will not be possible to replace all lost jobs with similar ones (for example, traditional manufacturing jobs at plants like Massey-Ferguson, Goodyear, and Inglis will not reappear in cities). Many of the new positions will be in finance, insurance, real-estate, and service occupations, as well as in computer-related firms, and in arts and entertainment enterprises.

The changing nature of "industry" and even "manufacturing" means that many new industries can be accommodated and new jobs provided within the existing urban fabric without creating compatibility problems. Government and the private sector must work together to ensure that these industries are encouraged and that cities have a broader economic base. Rather than rely on rigid separation and compatibility criteria, these industrial activities can be monitored by environmental criteria with respect to noise, dust, smoke, water and air emissions.

Transit and Parking

A central focus of transit-oriented urban revitalization should be equity. To improve equity in terms of physical, social, and economic access to transit and to public services and amenities, jobs, housing, day care, schools, libraries and other community facilities and social services should all be within easy access by walking or public transit. The transit system must be ubiquitous, quick, safe, efficient, and affordable. Incentives (such as reasonably priced annual transit passes) should be provided to get people out of their cars, to encourage greater use of transit and of walking and bicycling. Transit-oriented urban areas are encouraged, promoting the integration of several different but complementary, linked transportation modes and systems.

A significant problem with implementing urban intensification schemes is high parking standards, which often are unnecessarily restrictive. In social housing projects, for example, it is common to see many unused parking stalls. For some projects, particularly those on transit lines, a reduction in requirements may be quite reasonable. However, this concept must be sold to skeptical communities and local politicians.

Urban Design

Physical planners have made urban design a key feature of intensification policy. They are particularly concerned about the development of "quality public spaces including streets, parks and squares" (City of Toronto, *Official Plan Overview,* 1996). Design issues include streetscapes, building heights, street frontages, building envelopes and lighting. An undue concentration on physical design factors may yield a highly livable neighbourhood, but one which does not have a mix of income groups. Planners and public officials must ensure that they do not neglect social, cultural and economic issues about equity and access for all groups.

To deal with density and livability issues, more attention must be given to noise attenuation, soundproofing buildings, and using white noise (such as moving water) to muffle street noise. Glass walls may be used to block noise while still allowing people to see through.

Other recommendations are to encourage people contact, provide seats in abundance, encourage use of parks and sidewalks, allow stores to open up to the sidewalk, permit sidewalk cafes and kiosks and put parking underground (in the urban core) and eliminate surface parking lots, which discourage walking and have a deadening effect on the streetscape.

Urban design and creative use of space can help improve the livability of the city. Intensification projects may be used to promote roof gardens and community gardening, to bridge over freeways and rail lines to ensure pedestrian access to open space and the waterfront, to enhance access and mobility for people with physical disabilities, to facilitate the construction of housing on top of parking garages, to create and encourage short blocks, more intersections, and traffic calming devices which make the city more interesting and inviting for walkers.

To ensure women's needs are taken into consideration, plans for intensification should include the use of a Women's Safety Audit, a tool developed by the Metro Action Committee on Public Violence Against Women and Children. Crime Prevention Through Environmental Design, an effective design approach that attempts to design and manage urban space in such a manner to reduce both crime and the fear of crime, should be encouraged. Good behaviour cannot be guaranteed by design; but intensification projects must take into account the needs of the groups who are concentrated in urban centres, including seniors and women. A central concern is public safety. One woman in four will be sexually assaulted at some point in her lifetime either by a stranger or by someone she knows. A 1996 community safety survey found that violence and fear of violence were the most important safety issues. Both the reality of violence and the fear of violence hinder women from participating fully in community life.

CONCLUSIONS

- Growth in Canada's urban regions is likely to consist of a combination of sprawl, nodal development, urban revitalization, infill, and intensification of inner suburbs. The scope of sprawl is such that it cannot be reversed completely; but it is feasible to partially contain urban sprawl and to concentrate on urban intensification. There is growing awareness of the economic, social and environmental costs of sprawl, which may help to provide greater support for residential intensification in existing built-up urban areas.

- Some of the housing intensification initiatives can be in outer suburbs, some in inner suburbs, and some in the urban core. Even in the Central Area of the City there is room for intensification, as demonstrated by the case studies in this report. Outside of the Central Area there is more land available for infill.

- Traffic congestion in the built-up urban area has reached the point that some commuters are beginning to move back to the city to avoid long trips twice each weekday. This represents a promising opportunity to provide additional housing and mixed land uses which will help to ensure the continued vitality of the urban core. This presumes that the areas slated for infill have excess infrastructure capacity or that additional infrastructure can be provided at reasonable cost. It also assumes that site remediation will be possible.

- Experience shows that the great majority of people in the Central Area use transit; in fact, most do not own cars. Because traffic congestion is worsening, and public transit needs more riders to support the existing system, it is reasonable to suggest a modest increase in residential development in the urban core.

- There is substantial support for intensification reflected in the municipal plans and in a substantial number of intensification projects that have been developed over the past two decades. Moreover, planners, politicians, and transit managers recognize the need to encourage intensification in order to ensure sufficient population to maintain a vibrant urban centre and a complete, well-maintained transit system.

- Support for intensification also is strong in such inner suburbs as the former North York. One of the benefits of intensified development (and related job creation) in such areas is that better use of the transit system will result from contra-flow commuters who live downtown but commute by public transit to jobs on the edge of downtown.

- Those most in need of housing are relatively low-income renters who lack vehicles and who require housing in close proximity to work and to services. Therefore, considerable attention has to be given to those areas favoured by low-income renters, which allow them relatively easy access to jobs, urban amenities, and social services.

- Most of the housing made available to suit these groups will be in existing buildings; either by using the housing more intensively (such as shared housing, basement apartments, accessory units, or adaptive reuse of non-residential structures) or by having new arrivals move into dwellings vacated by people moving to the suburbs to purchase homes.

- In addition, some new intensification projects will be undertaken. These are not likely to be mega-projects but smaller infill developments that will minimize clashes with existing neighbourhoods.

- Intensified areas must contain a substantial mix of housing types to allow for a range of choice and to ensure that some units are affordable to those people who represent the greatest demand for urban housing; such as seniors, immigrants, young singles, single parents with children, and empty nesters. Because funding for social housing programs is no longer readily available, however, there is a pressing need for governments, the private sector, and non-profit organizations to work together to find innovative ways to produce affordable housing. Examples are shown in the case studies: one recent illustration of creative thinking was the provision of housing by the City of Toronto on top of a parking garage on Larch Street, near Dundas and Spadina; see Case Study #10 and Figure 17. Local governments may assist this type of initiative by facilitating development permit processing, by forming partnerships with private developers and non-profits, by providing land, and by assisting with financing in order to reduce problems with lending institutions.

- Some of the projects illustrated in the case studies have a floor area ratio or density of only one, or "one times coverage." In short, they are not particularly "dense" (at least in urban areas) either with respect to land coverage or in terms of the total number of units. This is an important consideration because the most significant opposition to infill projects comes from those who assert that the density and overall size of new projects is not in keeping with the scale and ambience of existing neighbourhoods. In the past, neighbourhood opposition has stopped some projects. In order to succeed with intensification or infill housing, then, it is crucial to ensure that overall project size and configuration "fit" with the surrounding neighbourhood, to respect the grid pattern, roof lines, and architecture of nearby houses, and to carefully plan parking so that existing residents cannot legitimately complain about lack of spaces for their vehicles. This process requires sensitive, thoughtful planning and work with the community to defuse opposition before it gains momentum. Computer-aided design and visualization will be useful in facilitating these participatory planning processes.

- In order for intensification to occur, some planning changes are required: parking must be approached in a flexible manner. Parking requirements can be reduced in downtown projects on transit lines. Generally, there are fewer cars in social housing and seniors' projects than in co-operatives or condominiums. Developments outside of downtown will always require more parking, in part because of higher car ownership, and in part because on-street parking often is not available (or allowed).

- Planners now recognize that intensification is a local or neighbourhood issue; it is necessary as well to differentiate between in-town areas (which are usually accustomed to relatively high densities and lack of on-site parking) and areas outside of downtown, which bear some similarities to the inner suburbs. Planning policies, then, may be more effective if sufficiently flexible to allow for tailoring to different contexts. It also is necessary to differentiate between districts in terms of scale; when some arterials are 20m wide and others are 30m wide, it is nonsensical to impose a single height limit on all major streets. When streets are wider it is possible to build to a higher scale and to achieve greater intensity without overwhelming the street or the pedestrian.

- Residential and mixed-use intensification is likely to be better received if it is in the form of small, demonstration projects tied directly to public improvements along the main streets; such as improvements in streetscape, public markets, underground hydro and utilities, and open space for public use.

- Many planners believe that there is a need to re-think regulations, though not necessarily abandoning them, to respond to today's changing marketplace. Policy needs to be recast to recognize current contextual issues; but it is still essential to think in terms of the planner's role in providing an appropriate level of infrastructure and community services.

Discussions about urban intensification should not begin with density. Instead, the concentration should be on how the city and the block or the neighbourhood will look and feel and how the needs of different groups will be accommodated. Density as an abstract term is perceived negatively by most people. It is not persuasive to existing residents who fear newcomers. Rather than starting with density, planners should concentrate on flexible controls that are neighbourhood specific and respect local issues as well as the overall goal to revitalize the entire city. It is because people gravitate toward particular parts of the city; places that are interesting, attractive, and vibrant; where they can watch and interact with others; that brings density. It is essential to understand what motivates this process, what makes it happen, what brings people together, rather than trying to prescribe such a solution through rigid, generic regulations. Attention to the details will make the city livable; a place to sustain human contact and liveliness, while providing for equitable access for all social groups.

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Legend

The following abbreviations are used in the case studies which follow:

Unit type	
r	single room
b	bachelor apartment
1,2,3,>3	number of bedrooms
Parking	
surf	surface parking at grade level
ug	underground parking
res	parking for residents
vis	parking for visitors
x/unit	number of parking stalls per unit for the total project
Site statistics	
a(m^2)	total site area expressed in square meters
gfa(m^2)	gross floor area of the building(s) in square meters
d	density expressed in terms of lot coverage; 1.5x indicates that the building's floor area is equal to 1.5 times the site area. This is also expressed as FAR (floor area ratio)
u/ha	number of units per hectare
u/ac	number of units per acre
LDR	low density residential

Compatibility

The second page of each case study examines a number of criteria in terms of compatibility of the intensification project with the surrounding neighbourhood. A positive feature (for purposes of intensification), such as location on a major arterial, is rated as "1" in the column at the right of the page. A feature which is seen as neutral or of no consequence, is rated "0". A feature which created neighbourhood opposition or which is perceived as negative is rated "-1". See the chart below:

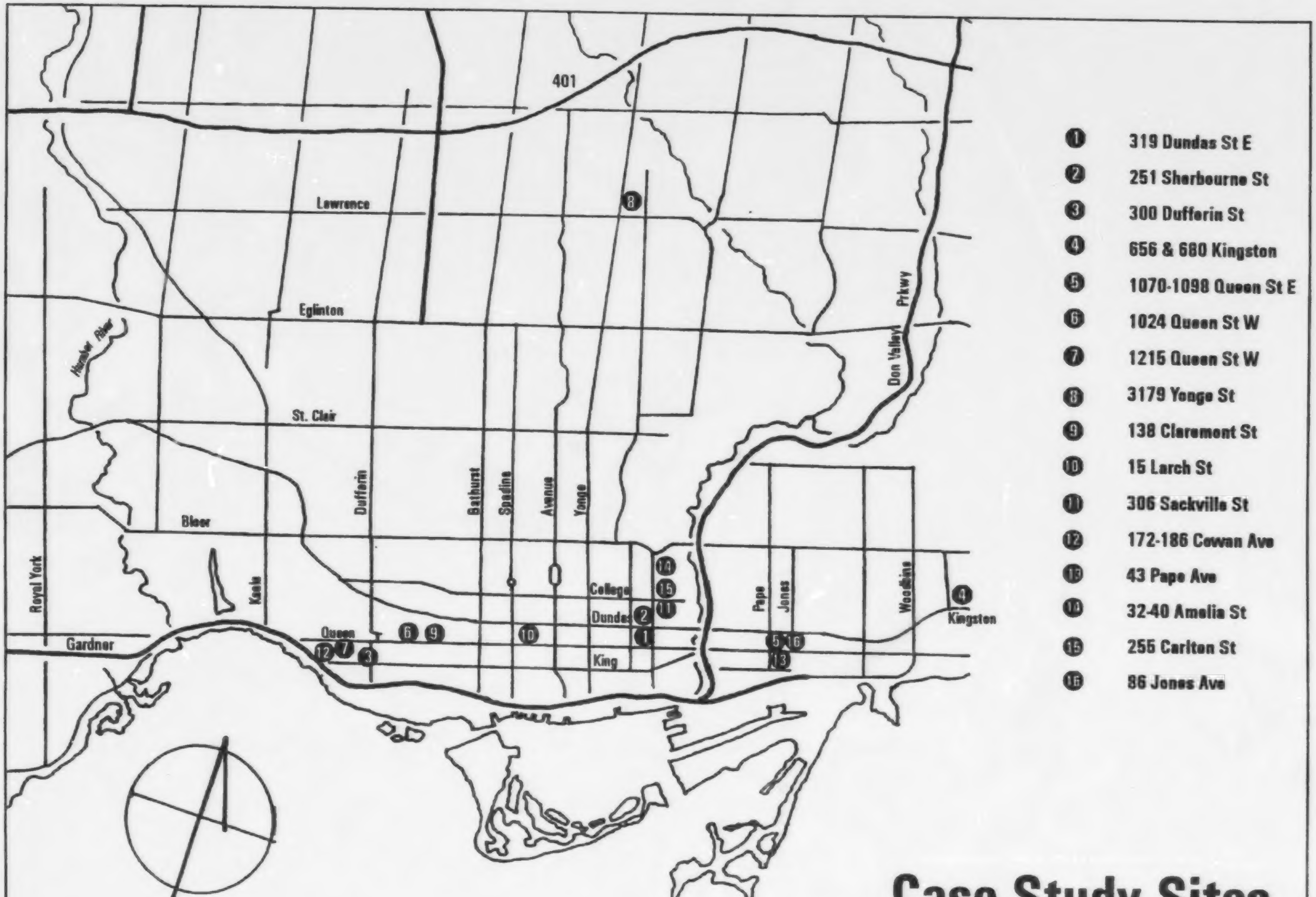
Feature	Rating
Positive	1
Neutral	0
Negative	-1

The compatibility score at the bottom of the page represents the sum total of the 12 elements or features above. A positive score indicates that the project was compatible. A score of zero indicates that the project's impact was neutral. A negative score indicates that the project was considered incompatible or because it encountered neighbourhood opposition, often because the new buildings were perceived as being incompatible with the existing neighbourhood in terms of building height, bulk, or streetscape or because there was a perceived problem with parking. See the chart below:

Total Score	Compatibility
Positive	Compatible
Neutral	Neutral
Negative	Incompatible/ Opposition

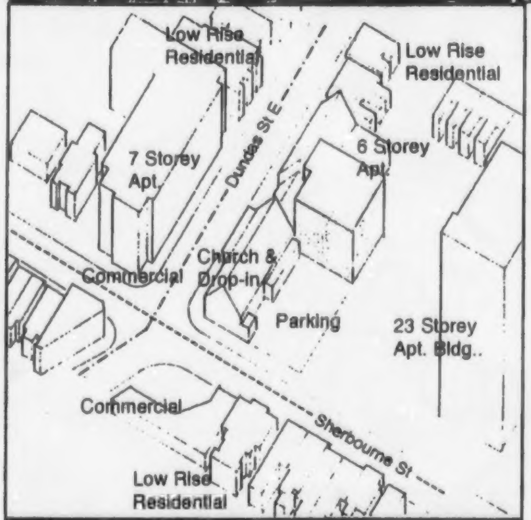
These characteristics are summarized in a comparative compatibility matrix in Appendix B.

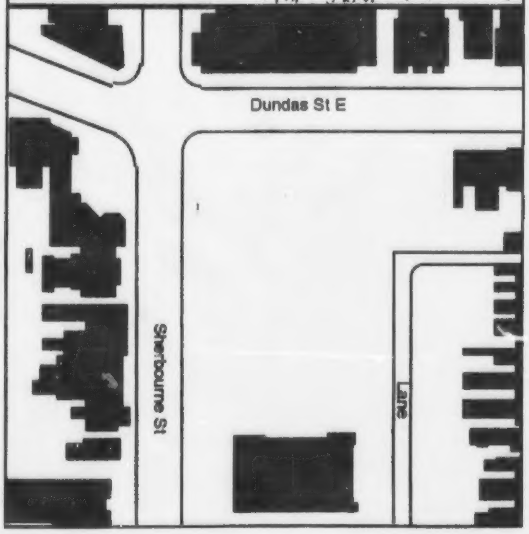
Case Study Sites


401
Lawrence
Eglinton
St. Clair
Bloor
Humber River
Royal York
Gardner
Keele
Queen
King
Dufferin
Bathurst
Spadina
Avenue
Yonge
College
Dundas
Don Valley Prkwy
Pape
Jones
Woodbine
Kingston
① 319 Dundas St E
② 251 Sherbourne St
③ 300 Dufferin St
④ 656 & 680 Kingston
⑤ 1070-1098 Queen St E
⑥ 1024 Queen St W
⑦ 1215 Queen St W
⑧ 3179 Yonge St
⑨ 138 Claremont St
⑩ 15 Larch St
⑪ 306 Sackville St
⑫ 172-186 Cowan Ave
⑬ 43 Pape Ave
⑭ 32-40 Amelia St
⑮ 255 Carlton St
⑯ 86 Jones Ave

1 319 Dundas Street East

Howard W. Walker Architect, 1988


Low Rise Residential
Low Rise Residential
Dundas St E
7 Storey Apt.
6 Storey Apt.
Church & Drop-in
Commercial
Parking
23 Storey Apt. Bldg..
Commercial
Sherbourne St
Low Rise Residential


Dundas St E
Sherbourne St
Lane

Context: The project site is located at the intersection of two major streets, both serving transit routes. One street supports a variety of land uses including high and low rise residential, commercial and institutional. The other is mainly residential, although its forms range from individual houses to tower blocks (see also Case Study #2). The area immediately to the south is largely high rise, with a 23 storey building immediately to the south of the site. The side streets in the area are mostly low rise residential consisting of 2-3 storey row and semi-detached houses. The site itself accommodates a historically listed church that is used primarily for a drop-in centre. The neighbourhood has a high concentration of poverty and many agencies that serve the homeless concentrate their efforts in the area.

Project Description: The project was initiated to house some of the single people who used the church as a place to sleep. It consists of 61 very small, self-contained bachelor apartments in a 6 storey building. From the street to the north, the building is mostly hidden by the church. 22 surface parking spaces are provided to the west; they are rarely used.

Intensification: Replaced a 1 storey ancillary building.

Zoning Variances: Minor variances including height and the need to satisfy the Historical Board.

Unit Type	**b**	**1**	**2**	**3**	**>3**	**total**
Townhouse						
Stacked TH						
Walk-up Apt.						
Elev. Apt.	61					61
Total	61					61

Parking	**surf**	**ug**	**res**	**vis**	**total**	**/unit**
Spaces	22	0	22	0	22	.36

Site Stats	**a(m²)**	**gfa(m²)**	**d**	**u/ha**	**u/ac**	
	2 893	r2 850 t4 630	r1.0x t1.6x	210	85	

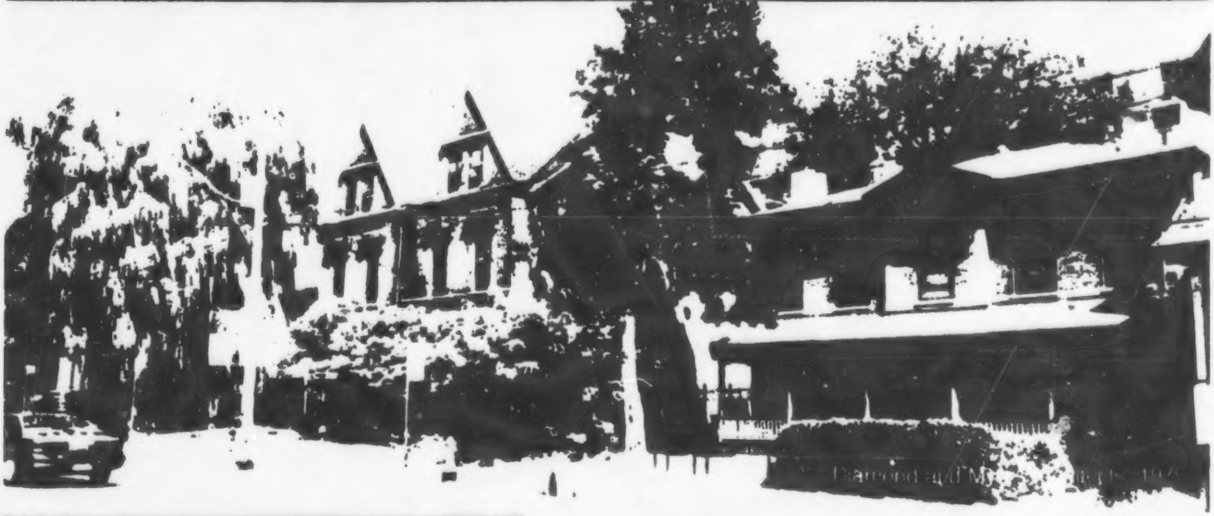
downtown
major arterial
rental social housing for low income singles
6 storey apartment building
attached to historically designated church
3 year development period
developed by Anglican Church and
Friendship Drop-In Centre
see Figures 12& 13

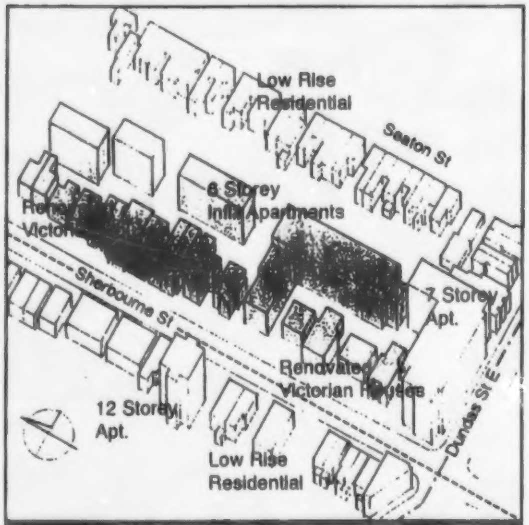
1.6x density

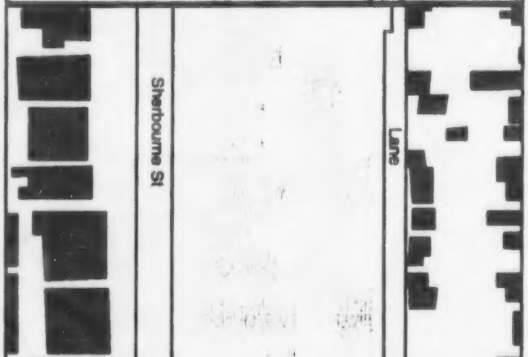
Location:	Intersection of two major arterials; walking distance to CBD.		1
Transit:	E-W streetcar route, N-S bus route		1
Construction:	New construction between church and highrise apartments.		-1
Land Use:	Residential added to institutional use.		0
Parking:	.36 spaces/unit At grade parking provided for tenants and community services. Lot is never full.		1
Zoning:	*Site* *Neighbourhood*	Mixed use commercial and residential. N-S arterial zoned for a variety of high density residential. E-W arterial zoned for a mix of commercial and residential. Side streets zoned for lower density residential.	1
Building Height:	*Neighbourhood* *Permitted* *Project*	2-3 storeys (side streets) up to 20 storeys on arterials. 12m. 6 storeys (18m) - fits within context, although some overlook problems to the East.	0
Footprint:	Although the building increased the coverage, the siting of the building behind the church and away from the street minimized its impact. New building does not crowd any pre-existing buildings.		0
Density	*Zoning by-law* *Official Plan* *Project*	2x coverage. High Density Residential 2x coverage. 1.6x, (res. coverage 1.0x) - lower than other project in area.	1
	units/ha: 210 *bdrms/ha:* 210	Although the residential densities are low, the units themselves are very small and targeted to low income tenants.	-1
Bulk	The building's mass is hidden by the church to the north, and partially masked to the west. It is far less imposing than the tower to the south.		1
Streetscape:	Project had little impact on streetscape--behind the church on one street and set back from the other. It makes no contribution to improving the streetscape.		0
Project Community:	Intended to house men who were using the church for a shelter, therefore serving a local need; concerns about the concentrating of social housing in the area.		0
Compatibility:			4

2

251 Sherbourne Street


Diamond and Myers 1976


Low Rise
Residential
Seaton St
6 Storey
Infill Apartments
Reno
Victo
Sherbourne St
7 Storey
Apt.
Renovated
Victorian Houses
12 Storey
Apt.
Low Rise
Residential
Dundas St E


Sherbourne St
Lane

Context: The project site is located just north of the intersection of two major streets, both serving transit routes (see also Case Study #1). One street supports a variety of land uses including high and low rise residential, commercial and institutional. The street that the project faces is mainly residential, featuring some grand old houses that have been subdivided into apartments and rooming houses. The area to the south of the intersection is dominated by a number of high rise developments. The side streets consist of 2-3 storey row and semi-detached houses.

Project Description: The project arose as a response against the proposed development of two 29 storey towers. A local working committee looked for alternative forms to accommodate the same number of units without destroying the character of the neighbourhood. The result was the preservation of all but one house on the site. Those remaining were renovated as city-run rooming and apartment houses, while four 6 storey blocks were built behind. The scale of the new buildings was limited to ensure that the houses to the east would not lose access to light.

Intensification: The project added 313 units to the site and retained almost all of the existing subdivided houses.

Zoning Variances: Density, setbacks and parking; special zoning consolidating property for density calculations.

Unit Type	r	b	1	2	3+	total
Walk-up Apt.	12	26	26	8	17	89
Elev. Apt.	10	155	98	14	11	288
Total	22	181	124	22	28	377

Parking	surf	ug	res	vis	total	/unit
Spaces	0	80	80	0	80	.21

Site Stats	a(m²)	gfa(m²)	d	u/ha	u/ac
	10 359	25 950	2.5x	364	147

downtown
major arterial
rental social housing for low and moderate income households
6 storey infill apartment buildings
behind renovated Victorian detached house
5 year development period
developed by City of Toronto
see Figures 12,13 & 14

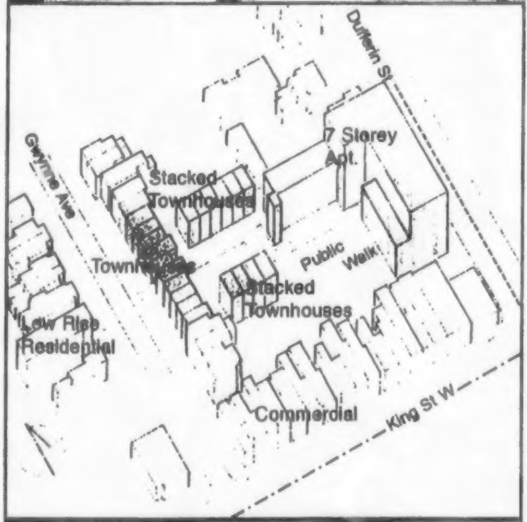
2.5x density

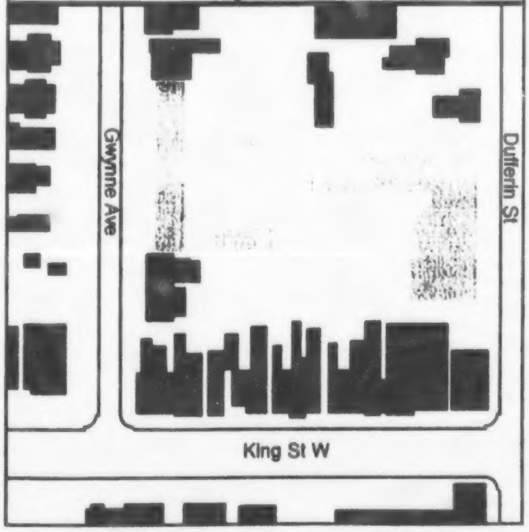
Location:	Near intersection of two major arterials; walking distance to CBD.		1
Transit:	E-W streetcar route, N-S bus route.		1
Construction:	New construction (apartment building) and renovation (houses).		0
Land Use:	Intensification of residential land use (local working committee involved).		1
Parking:	.21 spaces/ unit.-- underground parking provided for tenants; some concerns from neighbours about parking space being too limited.		0
Zoning:	*Site*	Mixed residential, including multi-family housing	0
	Neighbourhood	E-W arterial mixed commercial and residential; side streets low density residential.	
Building Height:	*Neighbourhood*	2-12 storeys.	1
	Permitted	12m.	
	Project	3 & 6 storeys. Care was taken to ensure access to light for residents to the east.	
Footprint:	Although the footprint on the site was increased substantially, the neighbours understood it was necessary to avoid the imposing presence of the towers that had been proposed. The involvement of a neighbourhood working group helped to solve problems during design.		0
Density	*Zoning by-law*	2.0x coverage.	-1
	Official Plan	High Density Residential (2.5x coverage).	
	Project	2.5x coverage. Project required rezoning.	
	units/ha: 364 *bdrms/ha: 439*	The high density and the small units were seen as serving the needs of the local community.	1
Bulk	The bulk of the building is hidden behind the Victorian houses. Residents to east are overlooked by new buildings, although the mass has been broken up.		0
Streetscape:	Pre-existing streetscape is retained with the exception of the new building reaching the street mid-block; improvements due to renovation of older bldgs..		1
Project Community:	At the time this project was seen as serving local needs and communities.		1
Compatibility:			6

3

300 Dufferin Street

Brook Carruthers Shaw Architects 1979


Dufferin St
7 Storey Apt.
Gwynne Ave
Stacked Townhouses
Public Walk
Townhouses
Stacked Townhouses
Low Rise Residential
Commercial
King St W


Gwynne Ave
Dufferin St
King St W

Context: This project fronts on two different streets, a major arterial with public transit and a mix of land uses, and a street of 2-2½ storey detached and semi-detached houses. It was assumed that the density of the residential uses would increase along the arterial and this has generally happened. The site is also immediately behind the commercial and retail buildings that face onto another arterial with transit.

Project Description: The planning process for this project included extensive involvement of a local working committee. It is a fairly early example of planning attempts to increase density in a manner that does not disturb the existing scale of established neighbourhoods. The west side of the site, located on a low rise residential street, consists of townhouses and stacked townhouses, and the density does not exceed 1.0x. A 7 storey, 109 unit apartment building is located along the major arterial where increased densities were anticipated. A public pathway bisects the site, providing access to stacked townhouses in the interior of the block.

Intensification: Replaced 16 semi-detached houses some were divided into rooming houses and apartments.

Zoning Variances: Density, setbacks, building behind building, parking, open space.

Unit Type	b	1	2	3	>3	total
Townhouse				6	4	10
Stacked TH	10			10		20
Walk-up Apt.						
Elev. Apt.	42	20	51	1		109
Total	52	20	51	17	4	144

Parking	surf	ug	res	vis	total	/unit
Spaces	0	50	50	0	50	.36

Site Stats	a(m^2)	gfa(m^2)	d	u/ha	u/ac
	5 782	9 540	1.65x	249	100

outside downtown
major arterial
rental social housing for low to moderate income households
townhouses, stacked townhouses and apts.
density on residential street limited to 1.0x
3 year development period
developed by City of Toronto

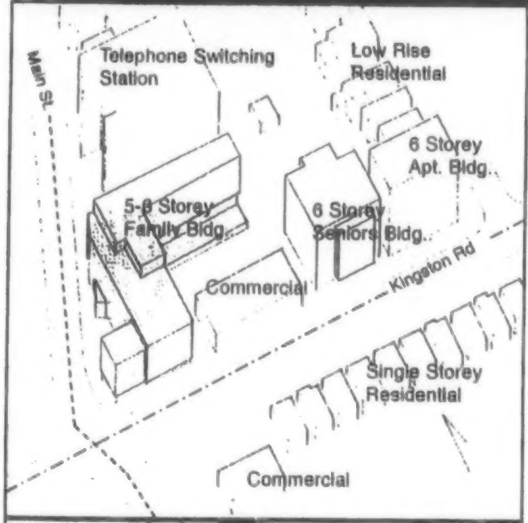
1.65x density

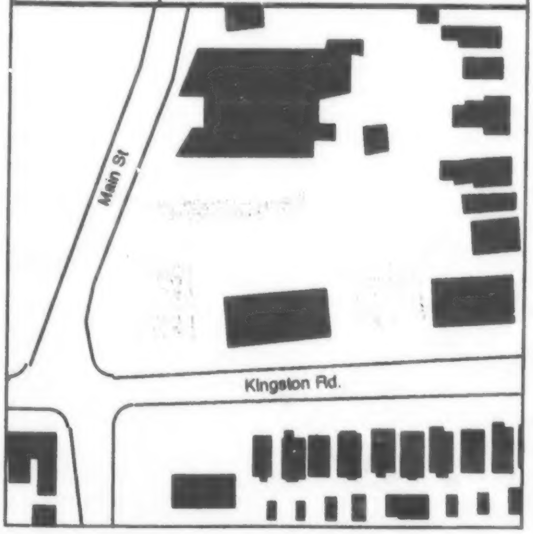
Location:	Facing a major arterial and a residential side street, close to a second arterial.		0
Transit:	Major E-W streetcar route; N-S bus route.		1
Construction:	New construction.		-1
Land Use:	Intensification of residential, replaced housing in poor condition.		0
Parking:	.36 spaces/unit - parking provided underground; proximity to transit and variety of local amenities as well as tenants' incomes, reduces the need for parking.		0
Zoning:	*Site*	Mixed residential.	
	Neighbourhood	Low density residential on the side streets, high density residential on the NS arterial, and mixed commercial residential on the E-W arterial. The site generally conforms.	1
Building Height:	*Neighbourhood*	2-3 storeys side streets, 2-8 storeys on arterials.	
	Permitted	West 9m; east determined by angular plane from centre of road.	
	Project	3 to 7 storeys - townhses exceeded limits but matched scale of street, east side was within limits, but contrasted with context.	0
Footprint:	Like 251 Sherbourne (see Case Study 2) this project involved a neighbourhood working group including local residents. Although the project footprint exceeded that which preceded it, potential problems were overcome during the early design stages. Public access through site was offered given lack of parks in area.		1
Density	*Zoning by-law*	1.0x coverage (under review at time of development).	
	Official Plan	2.0x High Density Residential on east; 1.0x LDR on west.	
	Project	1.65x -- maintained 1.0x coverage on west side.	1
	units/ha: 249 *bdrms/ha:* 399	Large number of family units at high density--often a cause for local concern and the issue created tension in the working grp.	-1
Bulk	On the west side, the bulk of the apartment building is masked by the townhouse. From Dufferin, however, the building is imposing.		0
Streetscape:	The townhouses fit in well. There was a proposal to provide retail at grade on the east side, but it was not realized; eastern building does not enhance street.		0
Project Community:	Proposed to meet local needs, including those of households with children. However, it is usually difficult t get approvals for social housing for families.		-1
Compatibility:			1

4

656 & 680 Kingston Road

Van Nostrand Di Castri Architects 1995


Telephone Switching Station
Low Rise Residential
Main St.
6 Storey Apt. Bldg.
5-6 Storey Family Bldg.
6 Storey Seniors Bldg.
Kingston Rd
Commercial
Single Storey Residential
Commercial


Main St
Kingston Rd.

Context: Although this project is located on a major arterial served by transit routes, land uses in the immediate vicinity are very mixed. Many blocks include a number of scales of residential and commercial developments and the scale of development has increased in recent years. Housing ranges from low rise single family detached (one storey across the street) to six storey apartment buildings. Immediately to the north is a large, blank, telephone switching station.

Project Description: The project includes two buildings. The larger is designed for 65 families and is 5 storeys tall at the street, and 6 towards the back of the site, masking the switching station. It wraps around a pre-existing 2 storey commercial building. A smaller 6 storey building, accommodating 44 seniors units, is located at the east end of the side. Its scale matches the pre-existing neighbouring building. High density was required to make project work within Ministry of Housing budgets.

Intensification: The project replaces a vacant gas station and a small hotel.

Zoning Variances: Density, building depth, setbacks, building behind building, parking.

Unit Type	**b**	**1**	**2**	**3**	**>3**	**total**
Townhouse						
Stacked TH						
Walk-up Apt.						
Elev. Apt.	24	30	55			109
Total	24	30	55			109
Parking	**surf**	**ug**	**res**	**vis**	**total**	**/unit**
Spaces	0	57	57	0	57	.54
Site Stats	**a(m²)**	**gfa(m²)**	**d**	**u/ha**	**u/ac**	
	3 188	8 867	2.75x	341	138	

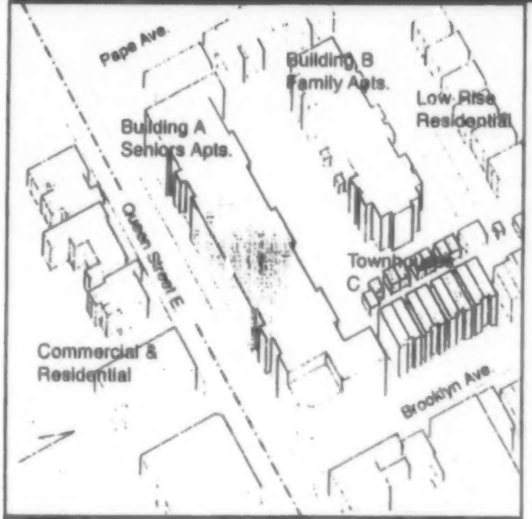
outside downtown
major arterial
rental social housing for low income
families and seniors
5 & 6 storey apartments
intensification along main street
contrast with bungalows across street
3 year development period

2.75x density

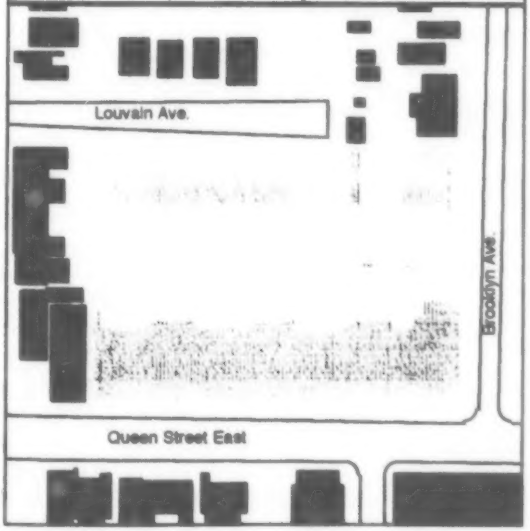
Location:	Major arterial, outside downtown; close to shopping and recreational amenities.	1
Transit:	E-W streetcar (rush hours) and N-S bus route.	0
Construction:	New construction.	0
Land Use:	Replaced small hotel & gas station - no commercial space, mainstreet location.	1
Parking:	.54 spaces/unit - parking provided underground. It was assumed that many of the seniors in the project would not drive.	0
Zoning:	*Site* Mixed commercial and residential *Neighbourhood* Mixed commercial and residential on the arterial to west, low density residential on the side streets and arterial to east.	0
Building Height:	*Neighbourhood* 1-6 storeys *Permitted* 18m *Project* 5 & 6 storeys (17.9m). Contrasts with bungalows across street, that are located in an area designated for intensification.	0
Footprint:	The family building wraps around a pre-existing commercial building. The percentage lot coverage is not significantly different from other recent developments along the north side of the street. However, the configuration received vocal complaints from neighbours during public hearings.	-1
Density	*Zoning by-law* 2.5x coverage. *Official Plan* High Density Residential 2.5x coverage. *Project* 2.75x coverage--needed to make funding work, but not popular. *units/ha:341* *bdrms/ha: 514* High number of units/ha for area this far out from downtown, caused great concern during the planning approvals process.	-1 -1
Bulk	The configuration of the building breaks up the mass to match scale of other developments. The 6 storeys also hide the blank switching station to the north.	1
Streetscape:	Street frontage similar to other buildings along the street; corner might have benefited from a commercial usage, but difficult under Ministry of Hsg funding.	0
Project Community:	Despite the inclusion of senior's units in the project, local residents (many home owners) raised concerns about neighbourhood safety if non-profit built.	-1
Compatibility:		**0**

⑤ 1070-1098 Queen Street East

Markson Borooah Hodgson Architects 1994



Pape Ave.
Building B
Family Apts.
Low-Rise
Residential
Building A
Seniors Apts.
Queen Street E
Townhouses
C
Commercial &
Residential
Brooklyn Ave.



Louvain Ave.
Brooklyn Ave.
Queen Street East

Context: This project is located on a major arterial with a well used transit route. There are also several other bus routes within walking distance. The main street has a variety of commercial and retail land uses, mostly accommodated in 2-3 storey buildings with residential on the upper floors. The side streets are established low rise residential with 1½ to 2½ storey semi-detached houses.

Project Description: The project consists of three building types. A seniors' building (A), with some community functions on the ground floor, faces the major road. The developer reduced the height from 8 storeys to 5 during the planning process. The ground floor has been roughed-in to permit the addition of commercial space. The second building (B), designed for families, was reduced from 5 to 3½ storeys to reduce the impact of the 2 storey houses it faces. Although owned and operated by separate agencies, these two buildings share a common courtyard and underground parking structure. A third piece of the site was developed as 8 freehold semi-detached houses (C) with private garages.

Intensification: Replaced a 3 storey factory. Volume of the new building (A) is similar to that replaced.

Zoning Variances: Density and unit size.

Unit Type	b	1	2	3	>3	total
Townhouse				8		8
Walk-up Apt.			26	25		51
Elev. Apt.		150				150
Total		150	26	33		209
Parking	**pg**	**ug**	**res**	**vis**	**total**	**/unit**
Spaces	3	s18	18	0	92	.12
		c10	0	0		
		f55	42	13		1.07
Site Stats	**a(m^2)**	**gfa(m^2)**	**d**	**u/ha**	**u/ac**	
	6 614	r15 554	r2.35x	304	123	
		t16 506	t2.50x			

outside downtown
major arterial
mix of seniors' and family social housing
and private houses
multiple owners
mainstreet intensification
heights reduced during development
3 year development period

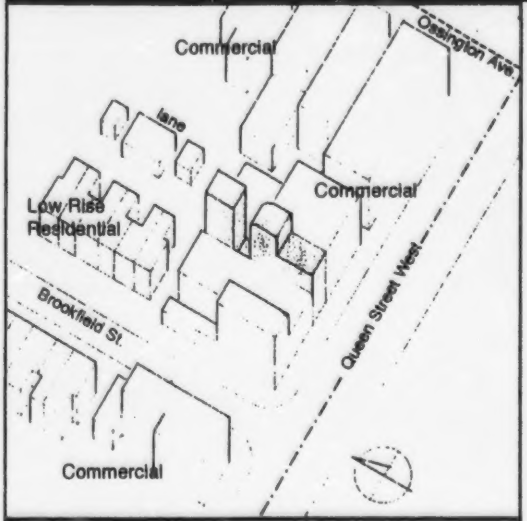
2.5x density

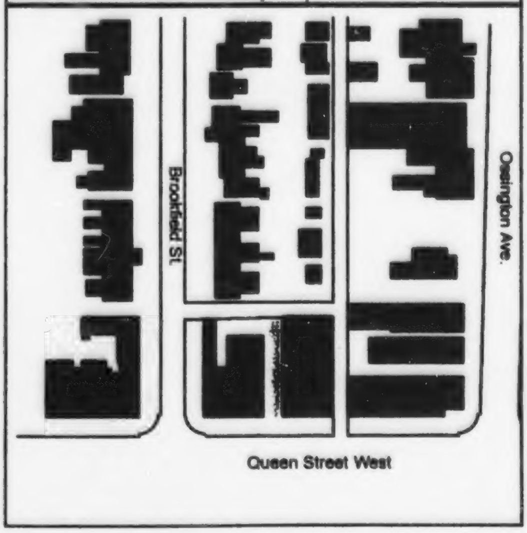
Location:	Facing major arterial and two residential streets; close to amenities.		0
Transit:	On major E-W streetcar route, close to N-S bus route.		1
Construction:	New construction.		-1
Land Use:	Residential replacing industrial.		0
Parking:	.12 spaces/unit for seniors; 1.07 for family building; 10 spaces for commercial space used by community service agency. Parking was not a major issue.		0
Zoning:	*Site*	Mixed commercial and residential/low density residential.	
	Neighbourhood	Mixed commercial and residential on arterial, low density residential on side streets. Project responded well to the different conditions it had to address.	1
Building Height:	*Neighbourhood*	2-3 storeys. Some taller (4-5 storey) residential near-by.	
	Permitted	14m.	
	Project	5 storey (14m) and 3 1/2 storey apartment buildings, 3 storey houses. Height was a major issue during planning.	-1
Footprint:	Footprint of the development roughly matches the area covered by the factory that was previously on the site. Private houses were changed from 9 rows to 8 semi-detached to address local perceptions of neighbourhood character.		0
Density	*Zoning by-law*	2.5x coverage, maximum 2,0x coverage residential.	
	Official Plan	2.5x coverage.	
	Project	2.35x residential, .15x commercial.	0
	units/ac: 304 *bdrms/ha:455*	High density was made more palatable to neighbours because most of the units are for seniors.	0
Bulk:	Bulk of the Queen Street building was a liability during the planning process. Mass of the smaller building was broken up, row houses changed to "semis."		-1
Streetscape:	Front building addresses typical "mainstreets" concerns, but its bulk negatively effects the streetscape. Side street treatment is more sympathetic to context.		-1
Project Community:	Because most of the residents are seniors, and some own their properties, the project's resident community was not an issue.		0
Compatibility:			-2

6

1024 Queen Street West

Moore PAINTS
Peacock's Home Centre
Kathleen Curly Architect 1988


Commercial
Ossington Ave.
lane
Commercial
Low Rise Residential
Brookfield St.
Queen Street West
Commercial


Brookfield St.
Ossington Ave.
Queen Street West

Context: Located on a major arterial with transit, the site fits into a commercial/ retail strip. The scale of development in the area is mixed: large institutional and formerly industrial uses on the south side of the street; development on the north side is quite small with few buildings taking up more than a couple of lots. Most structures on the north side are 2-3 storeys in height with commercial at grade and residential above.

Project Description: While not part of the Toronto Mainstreets Initiative, this project demonstrated the potential for small scale intensification. The owner added a partial fourth floor to a three storey building fronting on Queen St. providing additional space for one of the two apartments located over the commercial space. The remainer of the lot ground plane was covered by expanding the commercial space and adding a self-contained townhouse that was built at the rear of the lot.

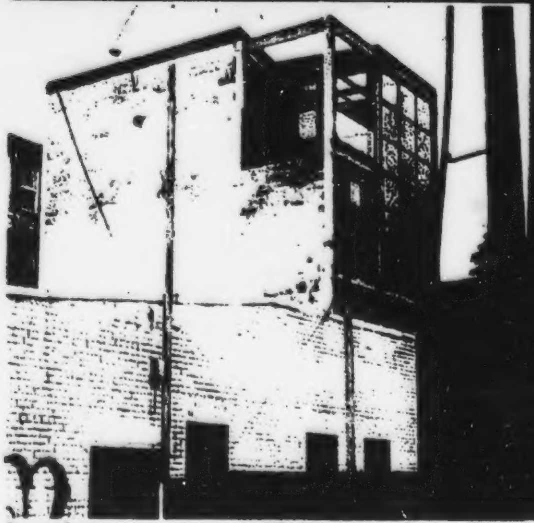
Intensification: Provide an additional unit on a small site.

Zoning Variances: Density, setbacks and parking.

Unit Type	b	1	2	3	>3	total
Townhouse			1			1
Stacked TH						
Walk-up Apt.			2			2
Elev. Apt.						
Total			3			3

Parking	surf	ug	res	vis	total	/unit
Spaces	1	0	1	0	1	.33

Site Stats	a(m²)	gfa(m²)	d	u/ha	u/ac	
	168	431	2.57x	180	73	

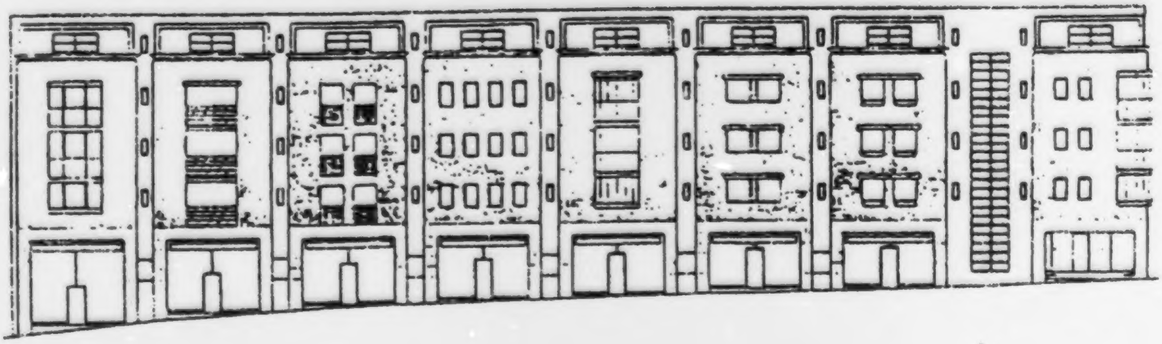


major arterial
outside downtown
small scale infill on single lot
3 private residences
commercial space
2 year development period

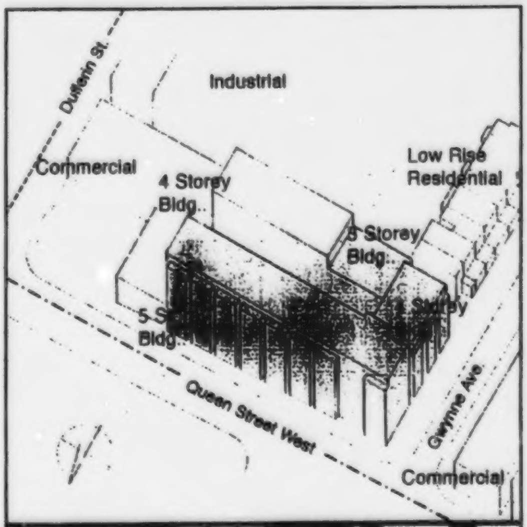
2.57x density

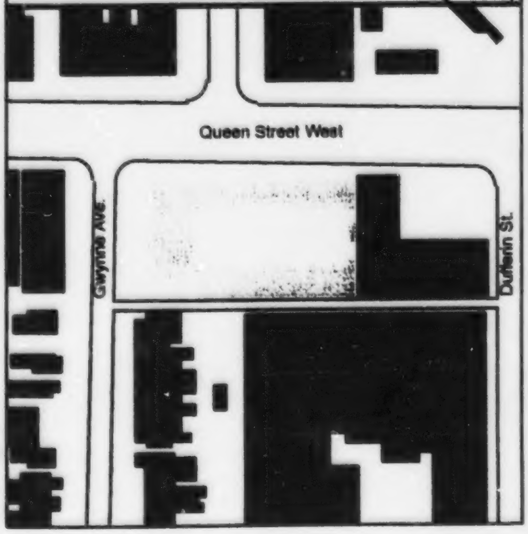
Location:	Major arterial.		1
Transit:	Major E-W streetcar route, N-S bus route.		1
Construction:	Renovation and additions.		0
Land Use:	Intensification of residential, retention of commercial uses.		0
Parking:	1 space for three units, provide in private garage off lane. Provision of adequate parking was an issue during planning process		-1
Zoning:	*Site*	Commercial.	
	Neighbourhood	Mix of commercial and residential. Variance needed at the time of development to provide housing over small commercial.	0
Building Height:	*Neighbourhood*	2-3 storeys .	
	Permitted	16m.	
	Project	3-4 storeys. Although slightly higher than its neighbours, height was not an issue.	0
Footprint:	Developed on a dense commercial strip, 100% site coverage is not unusual (see figure-ground drawing to right).		1
Density	*Zoning by-law*	2.0x coverage residential,1.0x commercial	
	Official Plan	2.5x coverage	
	Project	2.57x coverage	0
	units/ha: 180 *bdrms/ha: 238*	Mix of land uses keeps residential density down despite high Floor Area Ratio. Private development with larger units.	1
Bulk	Roof top addition setback from facade, little noticeable change in massing from street. Lane more problematic but building faces sides of houses.		0
Streetscape:	No change to streetscape, except in upgrading of commercial space.		1
Project Community:	Private, owner occupied development.		1
Compatibility:			5

⑦ 1215 Queen Street West



Piccaluga Architect (Unbuilt)


Dufferin St.
Industrial
Commercial
4 Storey Bldg.
Low Rise Residential
3 Storey Bldg.
Storey
5 S
Bldg.
Queen Street West
Gwynne Ave.
Commercial


Queen Street West
Gwynne Ave.
Dufferin St.

Context: The project was to be located near the intersection of two major arterials served by transit. The east-west street is primarily commercial and retail in 1-3 storey buildings with some residential over the stores. The north-south street includes residential and non-conforming industrial land uses; recent developments have included high rise apartment buildings (see Case Study #3). Side streets are low rise row and semi-detached houses of 1½ - 2½ storeys.

Project Description: This proposal provided 82 apartments in 3 blocks: a 5 storey building fronting on the east-west arterial with retail and common facilities at grade; a 4 storey block fronting a residential side street; and a 3-4 storey block at the south of the site backing onto a lane. All three blocks were to be served by an elevator in the 5 storey section with gallery access to upper levels and grade access to the lower units from a shared courtyard. Despite planning approvals, the project was not built because the length of the approvals process increased costs substantially. During the development process the developer made concessions to the neighbours limiting the types of retail that would be allowed and reducing heights in sympathy with adjacent scales.

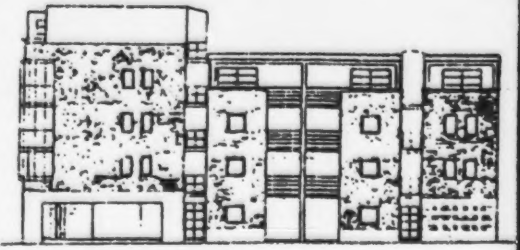
Intensification: To have replaced low rise commercial buildings.

Zoning Variances: Density, height, building behind building, setbacks and parking.

Unit Type	b	1	2	3	>3	total
Walk-up Apt.						
Elev. Apt.	1	41	40			82
Total	1	41	40			82

Parking	surf	ug	res	vis	total	/unit
Spaces	0	37	27	7	37	.41

Site Stats	a(m²)	gfa(m²)	d	u/ha	u/ac
	2 411	5 776	2.39x	340	138



major arterial
outside downtown
rental social (supportive) housing
retail at grade
significant concessions to neighbours
neighbourhood opposition
costs exceeded budget because of lengthy planning process
see Figure 16

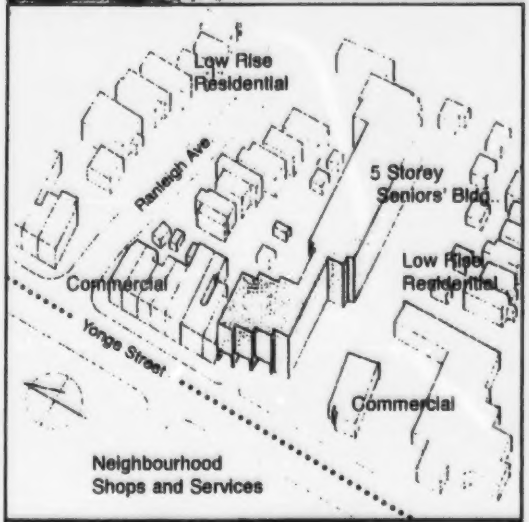
2.39x density

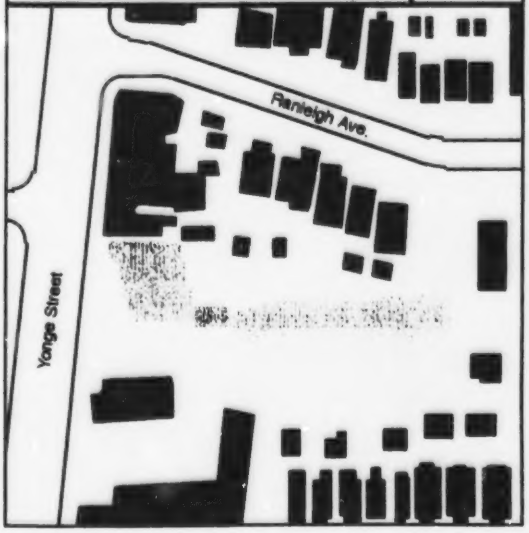
Location:	Facing major arterial and residential side street; close to shopping and amenities		0
Transit:	Major E-W streetcar route and N-S bus route.		1
Construction:	New construction.		-1
Land Use:	Replaced commercial with residential and commercial.		0
Parking:	.41 spaces/unit, 3 additional spaces reserved for commercial tenants. Few of the tenants would drive.		0
Zoning:	*Site*	Mixed commercial and residential.	
	Neighbourhood	Mixed commercial and residential on arterial, low density residential on side streets.	1
Building Height:	*Neighbourhood*	2-3 storeys on residential streets and arterial.	
	Permitted	14m	
	Project	3, 4 and 5 storeys (14m). Project height was varied, stepping down towards the residential neighbourhood behind.	0
Footprint:	Amount of site coverage is not unusual for this area (see industrial buildings to south and commercial buildings along arterial). Private space for the development was contained with a courtyard.		0
Density	*Zoning by-law*	2.5x coverage, max. 2.0x residential, 1.0x commercial.	
	Official Plan	2.5x coverage.	
	Project	2.39x coverage, 2.0x residential.	1
	units/ha: 340 *bdrms/ha: 506*	high density of units and bedrooms/ha. Produced local concerns about concentration of ex-psychiatric patients.	-1
Bulk	The courtyard design increased the perception of bulk as the built form was concentrated at the perimeter of the site.		-1
Streetscape:	Providing the retail was occupied, the development may have improved the streetscape at this location (see strip mall to west).		1
Project Community:	The project's proposed community of consumer survivors was possibly its greatest liability.		-1
Compatibility			0

8

3179 Yonge Street

Scotiabank Trust
Completed 1989


Low Rise Residential
Ranleigh Ave.
5 Storey Seniors' Bldg.
Low Rise Residential
Commercial
Yonge Street
Commercial
Neighbourhood Shops and Services


Ranleigh Ave.
Yonge Street

Context: The site is located on a major arterial one block from a subway station and bus routes. The neighbourhood includes a good variety of commercial and retail land uses including a supermarket across the street. The area to the east is an established low rise residential neighbourhood of single family detached houses and a large school. At the time of this site's development, there was a perceived need for more seniors' housing for the area's aging population.

Project Description: The project is on a deep site fronting a major arterial. Despite it prominent location, the ground floor is dedicated to parking, originally intended to address a meter shortage in the area (now used as visitor parking). Planners thought that the building was too tall at the back and suggested increasing the front section from 5 to 6 storeys while reducing the back from 5 to 4. They also suggested providing retail at grade and aligning the building with the street. Political approval was received without addressing these concerns. There appears to have been some urgency to start construction before government funding was lost, and the time was not good for development of new retail space

Intensification: Replaced 2 storey commercial building.

Zoning Variances: Setbacks, parking, unit size and building depth. Site spanned two OP zones: the rear was LDR and seniors' housing was not permitted.

Unit Type.	b	1	2	3	>3	total
Elev. Apt.		110				110
Total		110				110

Parking	surf	ug	res	vis	total	/unit
Spaces	38	0	38	0	38	.35

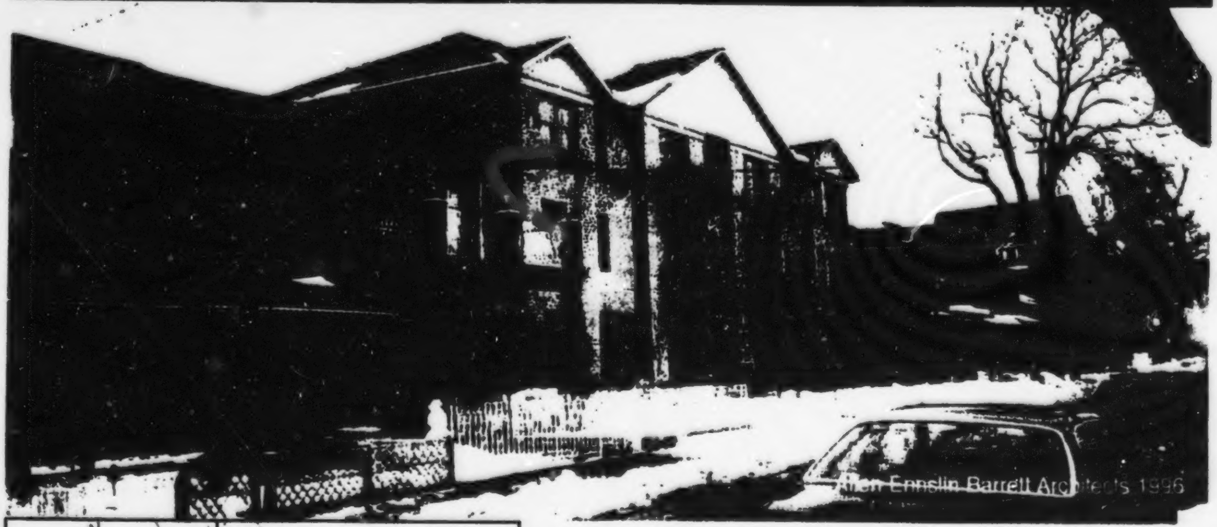
Site Stats	a(m²)	gfa(m²)	d	u/ha	u/ac	
	4 027	8 650	2.15x	273	111	

outside downtown
major arterial, at subway station
seniors' housing developed by
Metro Toronto Housing Company Limited
located in established single family area
limited neighbourhood opposition
3 year development period

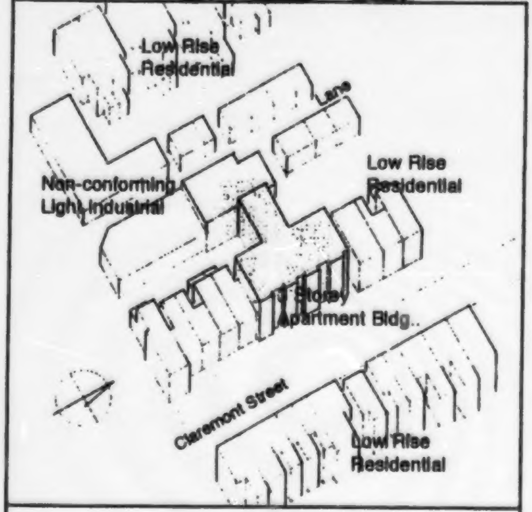
2.15x density

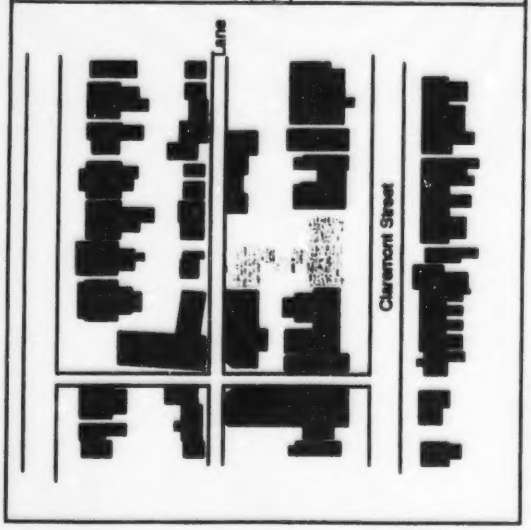
Location:	Major arterial; walking distance to neighbourhood shopping and amenities.		1
Transit:	Located one block from subway station and bus routes.		1
Construction:	New construction.		1
Land Use:	Change from commercial to residential - acceptable to neighbours.		1
Parking:	.35 spaces/unit - parking provided at grade; additional parking provided under the building, originally as public meter parking, now used for visitors;		1
Zoning:	*Site*	Mixed commercial and residential.	
	Neighbourhood	Mixed commercial and residential on arterial, low density single family residences on side streets.	0
Building Height:	*Neighbourhood*	1-3 storeys on arterial; 2 storeys on residential streets.	
	Permitted	16m.	
	Project	5 storeys (16m). Concerns were raised about the height at the back of the lot.	1
Footprint:	Extent of the coverage was not a major concern; however, planners expressed interest in lining up the front of the building with the street; planners concerns not addressed as the project's approvals were rushed through to meet funding deadlines.		0
Density	*Zoning by-law*	2x coverage.	
	Official Plan	Low Density Mixed Comm. Res./Low Density Res.	
	Project	2.15x coverage - supported to provide needed seniors' housing.	0
	units/ha: 273 *bdrms/ha: 273*	Slightly higher number of units/ha than allowed on the front portion of the site, but again supported because for need.	0
Bulk	Building's bulk is not apparent from the street; ther was concern with building overlooking back yards; suggestion that back be lowered were not acted on.		1
Streetscape:	Provision of parking along the street edge, and the arbitrary angle of the building front do not enhance the streetscape.		1
Project Community:	The perceived need for seniors' housing in the neighbourhood made the project community an asset to the proposal.		1
Compatibility			1

⑨ 138 Claremont Street



Allen Ennslin Barrett Architects 1996


Low Rise Residential
Lane
Low Rise Residential
Non-conforming Light Industrial
3 Storey Apartment Bldg..
Claremont Street
Low Rise Residential


Lane
Claremont Street

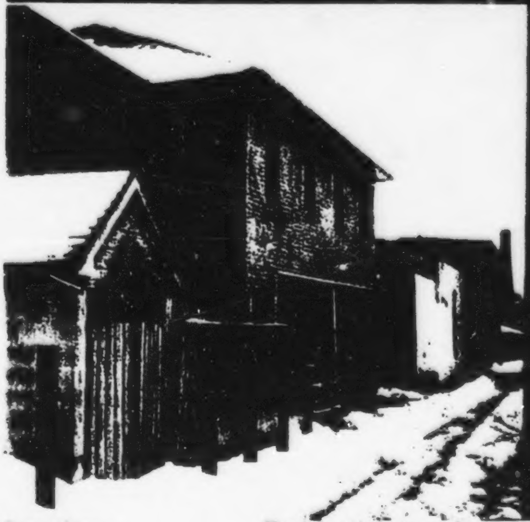
Context: The project is located within an established low rise residential area midway between two major arterials with transit. Most of the buildings in the area are 1½-2 storey detached or semi-detached houses (some subdivided). There are, however, a number of legal non-conforming commercial uses. The Official Plan also permits the presence of some light industrial uses, some of which are located in the immediate vicinity of the site particularly on the mid-block laneways.

Project Description: This project provides 18 bachelor apartments in 3 storeys. The building's footprint has an "H" configuration that creates two courtyards while concentrating the built form along the street and along the fairly built-up back lane. The presence of existing buildings on the back lanes may have helped establish precedent for the density above that permitted in the zoning by-law and eased neighbourhood opposition.

Intensification: Replaces an old industrial building that was partially used as an auto repair shop

Zoning Variances: Parking, density, depth of building, height.

Unit Type	b	1	2	3	>3	total
Townhouse						
Stacked TH						
Walk-up Apt.	18					18
Elev. Apt.						
Total	18					18
Parking	**surf**	**ug**	**res**	**vis**	**total**	**/unit**
Spaces	3	0	3	0	3	.17
Site Stats	**a(m²)**	**gfa(m²)**	**d**	**u/ha**	**u/ac**	
	920	1 650	1.79x	196	80	



downtown
off main street
rental social housing for singles
3 storey building on residential street
density along back lane fits with context
replaced legal non-conforming use

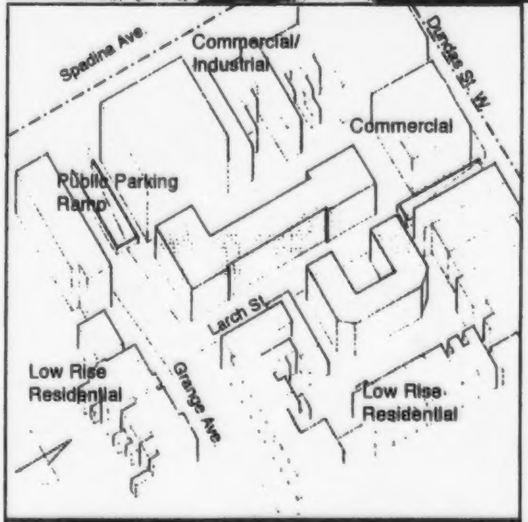
1.79x density

Location:		Residential street between two main streets.	0
Transit:		5 minute walk to 2 streetcar routes.	0
Construction:		New construction.	-1
Land Use:		Replaced autobody shop in middle of established residential block.	1
Parking:		.17 spaces/unit; parking provide off lane under back portion, on-street parking is an issue in the neighbourhood.	-1
Zoning:	*Site* *Neighbourhood*	Residential (formerly legal non-conforming). Low density residential.	0
Building Height:	*Neighbourhood* *Permitted* *Project*	1 1/2- 2 storeys 10m 3 storeys (>10m).	-1
Footprint:		Although the building footprint is greater than the zoning envisions, it is not out of character with the context (see figure ground drawing on left).	0
Density	*Zoning by-law* *Official Plan* *Project*	1.0x coverage. Low Density Residential. 1.79x coverage.	-1
	units/ha:196 *bdrms/ha: 196*	Density above that of the area, however, many houses are now subdivided, increasing the unofficial units/ha.	0
Bulk		Building's mass is not significantly different from other development in the area. Mass at the back of the site fits with context.	1
Streetscape:		Project attempts to fit with the character of the neighbourhood.	1
Project Community:		Project is designed to house low income singles but is located in a neighbourhood of single family residences.	-1
Compatibility			-2

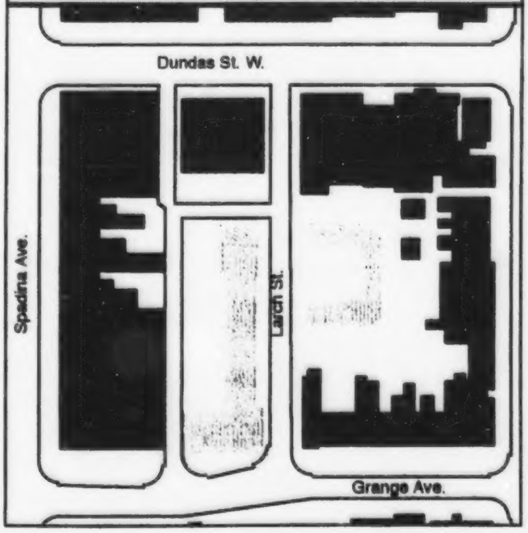
10

15 Larch Street / 76 Grange Avenue

Allen [illegible] 1996



Spadina Ave.
Commercial/ Industrial
Dundas St. W.
Commercial
Public Parking Ramp
Larch St.
Low Rise Residential
Grange Ave.
Low Rise Residential



Dundas St. W.
Spadina Ave.
Larch St.
Grange Ave.

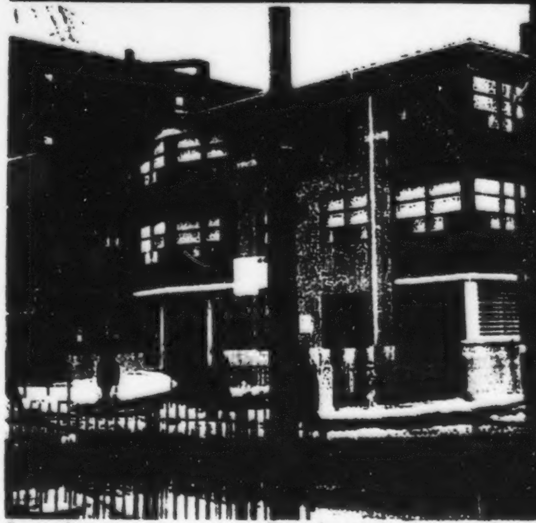
Context: The project is located in a dense built-up area. Although the residential stock in the area is primarily 2 storey row and semi-detached houses, many are subdivided. The commercial development on the street 1/2 block to the north is also low rise but very intensely used. The commercial street to the west includes older industrial buildings of up to 6 storeys. Both commercial streets are served by transit lines.

Project Description: These buildings were constructed over a new public underground parking structure serving Toronto's "Chinatown." The western building includes walk-up apartments and grade related units. The eastern block consists of apartments arranged around a courtyard. The buildings are both 3 storeys high, fitting in with the scale of the surroundings. Despite the participation of a neighbourhood working group, including residents and local business people, the project took 10 years to realize. It was complicated by separate ownerships of the housing and the parking structure, and the need to block off existing streets to provide access to the parking.

Intensification: Replaced 14 vacant lots and a parking lot.

Zoning Variances: Density, setbacks and parking.

Unit Type	b	1	2	3	>3	total
Townhouse						
Stacked TH			6	6		12
Walk-up Apt.	8	20	10	3		41
Elev. Apt.						
Total	8	20	16	9		53
Parking	**surf**	**ug**	**res**	**vis**	**total**	**/unit**
Spaces	19	0	19	0	19	.36
Site Stats	**a(m²)**	**gfa(m²)**	**d**	**u/ha**	**u/ac**	
	2 292	3 900	1.7x	192	78	



downtown
off main street
rental social housing for families
in dense built-up area
2 buildings over public underground parking
adjacent to old industrial and commercial uses
10 year development period
local working group of residents
and business people

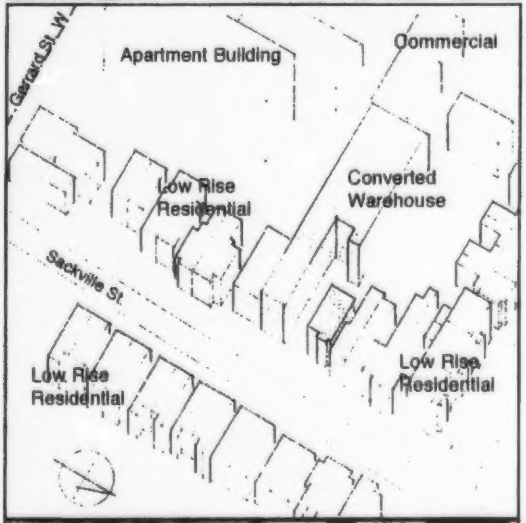
1.7x density

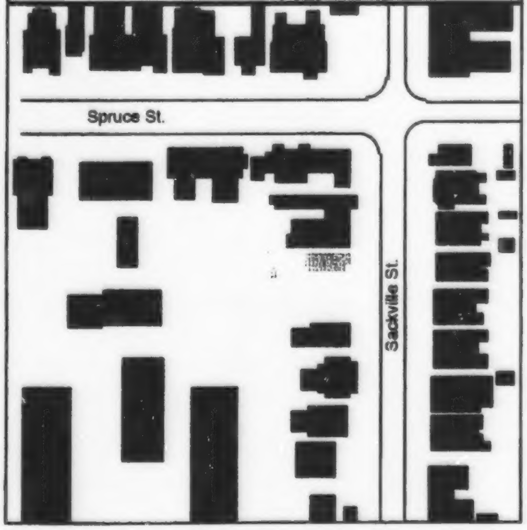
Location:		Residential street in dense downtown neighbourhood - adjacent to shopping.	1
Transit:		One short block to two major street car routes.	1
Construction:		New construction.	0
Land Use:		Intensification of residential (although lots were vacant for 10 years).	0
Parking:		.36 spaces/unit - parking for residents provided at grade off lanes. Public parking is provided in large underground structure.	1
Zoning:	*Site* *Neighbourhood*	Mixed residential. Mixed - light industrial and commercial to the west, mixed commercial and retail immediately to the north, and low density (FAR) residential to the east and south.	1
Building Height:	*Neighbourhood* *Permitted* *Project*	2-6 storeys. 12m. 3 storeys (10m).	1
Footprint:		Footprint of the project is compatible with the surroundings. East building forms a courtyard facing the street, an element that is not found elsewhere, but that makes good use of the site.	1
Density	*Zoning by-law* *Official Plan* *Project*	1.0x coverage. Low Density Residential, up to 2.0x coverage. 1.0x coverage - within Official Plan limits.	0
	units/ha: 192 *bdrms/ha: 380*	High density of units and bedrooms/ha is a characteristic of this neighbourhood.	0
Bulk		Massing of the building fits well with the neighbourhood. In the shadow of the industrial buildings to the west, the project appears quite modest.	1
Streetscape:		Project enhances the streetscape, providing front doors on the street for most units.	1
Project Community:		Designed to accommodate local needs.	1
Compatibility:			9

⑪

306 Sackville Street

John Cowle Architect 1988


Gerrard St. W
Apartment Building
Commercial
Low Rise Residential
Converted Warehouse
Sackville St.
Low Rise Residential
Low Rise Residential


Spruce St.
Sackville St.

Context: The site is located on a residential street 1/2 block north of a major arterial with transit, apartment buildings and some limited retail. A neighbourhood shopping street is 3 blocks to the west. The immediate surroundings include low rise housing ranging from detached to row houses. Although the area has working class origins, it has been gentrified over the last 20 years even though it is bounded to the south by a large public housing project. Despite the rising values of the properties, some rooming houses remain.

Project Description: The project converted an exiting warehouse in the middle of the block into 8 freehold townhouses with private garages on the ground floors. The site also incorporates an existing detached house with surface parking. Potential overlook problems to the south were avoided by limiting the openings in the south facade and providing open space for the units on the roof of the building. Developed within the envelope of the existing warehouse, there was little change in the gross floor area and apparent bulk accommodated on the the site.

Intensification: Converted underused industrial building.

Zoning Variances: Density, height, setbacks, building depth.

Unit Type	b	1	2	3	>3	total
Detached				1		1
Townhouse				8		8
Walk-up Apt.						
Elev. Apt.						
Total				9		9

Parking	surf	gar	res	vis	total	/unit
Spaces	9	0	9	0	9	1.0

Site Stats	a(m²)	gfa(m²)	d	u/ha	u/ac
	1 227	1 832	1.49x	73	30

downtown
off main street
conversion of underused warehouse
8 private townhouses & 1 detached
replaced non-conforming use
private open space provided on rooftop

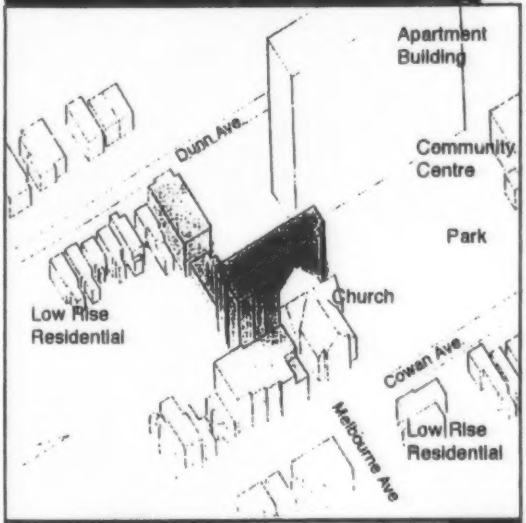
1.49x density

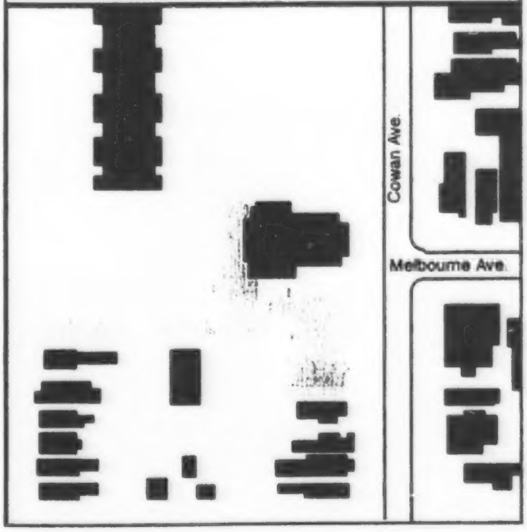
Location:		Residential street; 5 min. walk to neighbourhood shopping, 20 min. to CBD.	1
Transit:		Less than a block to major streetcar line, bus routes within 5 minute walk.	1
Construction:		Renovation of existing warehouse - construction within existing volume.	1
Land Use:		Change from non-conforming industrial use.	1
Parking:		1.0 spaces/unit. As a private development, there are more concerns about parking and 1 space/unit may not suffice. On-street parking is an issue in the area.	0
Zoning:	*Site*	Residential.	
	Neighbourhood	Residential. Change to conforming land use is an asset.	1
Building Height:	*Neighbourhood*	1-3 storeys.	
	Permitted	12m	
	Project	3 storeys (approx 10m). Even though within height limits, the building has taken place within an existing volume.	1
Footprint:		The footprint of the building located in the middle of the block and covering much of the site would have been an issue if it were not a pre-existing building. Private amenity space was provided on the rooftops.	0
Density	*Zoning by-law*	1.0x coverage.	
	Official Plan	Low Density Residential.	
	Project	1.49x coverage - within OP, matching pre-existing floor area.	1
	units/ha: 73 *bdrms/ha: 227*	Unit sizes are large given the small footprint of each. Density is achieved partly by stacking the open space on the roof.	0
Bulk		The general massing of the building was not changed. Potential overlook problems were addressed by providing no openings on the south wall.	0
Streetscape:		Streetscape was enhanced by the remodeling of the old warehouse.	1
Project Community:		Private townhouses in a gentrified area - marketed to many of the same sort of people living in the neighbourhood.	1
Compatibility:			9

12

172-186 Cowan Avenue

Markson Borooah Ho [illegible] itects 1995





Context: The project is located on the north side of an established low rise residential area with 2-3 storey houses many of which are subdivided. Immediately to the north of the site is a 20 storey apartment building, a neighbourhood park and a major community centre. The site is less than 1/2 block from a major arterial with well used commercial and retail functions and a transit route. The site is located in an area designated in the Official Plan as high density residential of up to 2 times coverage.

Project Description: This project was initiated by the church. The original proposal was for 148 unit in buildings of 5 and 10 storeys (2.6x density). This was reduced in response to strong neighbourhood opposition (at least partially based on the perception that the church did not contribute to the community). The built project consists of 126 seniors' apartments and a semi-detached house that functions as the church manse. As 8 storey building is located in the middle of the block behind the church and two 4 storey wings extend out to the streets approximating the existing scale. The project did not have strong support from the local planners, but was promoted through political processes

Intensification: 127 units replaced 5 existing houses.

Zoning Variances: Density, setbacks, building depth, building behind building, parking.

Unit Type	b	1	2	3	>3	total
Townhouse.				1		1
Elev. Apt.		124	2			126
Total		124	2	1		127
Parking	surf	ug	res	vis	total	/unit
Spaces	0	24	24	0	24	.19
Site Stats	a(m²)	gfa(m²)	d	u/ha	u/ac	■
	3 955	r8 290 t9 401	r2.09x t2.38x	321	130	

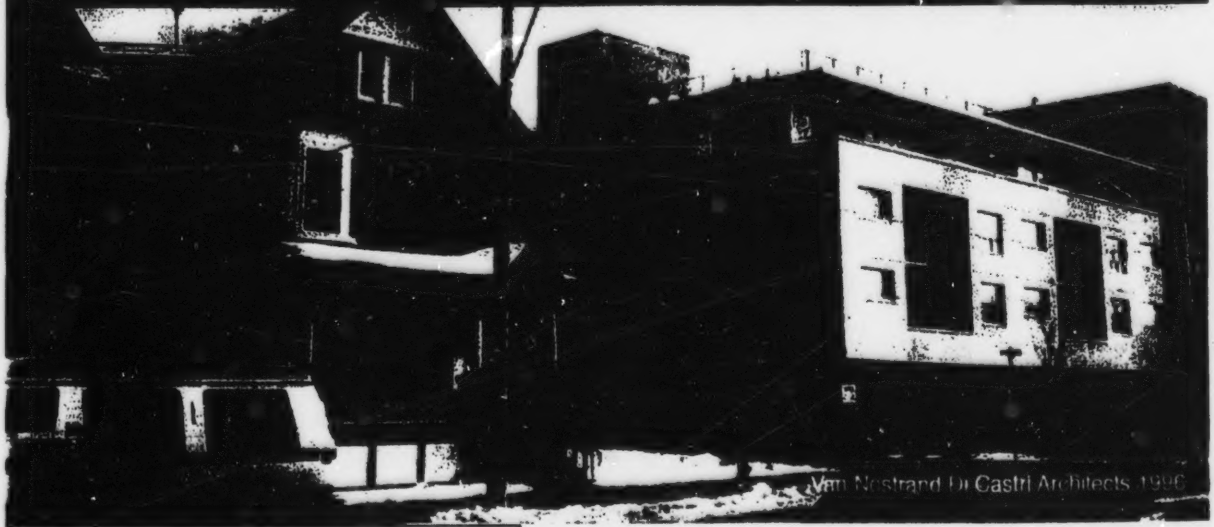
outside downtown
off main street
rental social housing for seniors'
between low rise neighbourhood
and high rise building
church sponsored project
neighbourhood animosity towards church
contributed to lengthy process
6 year development process

2.38x density

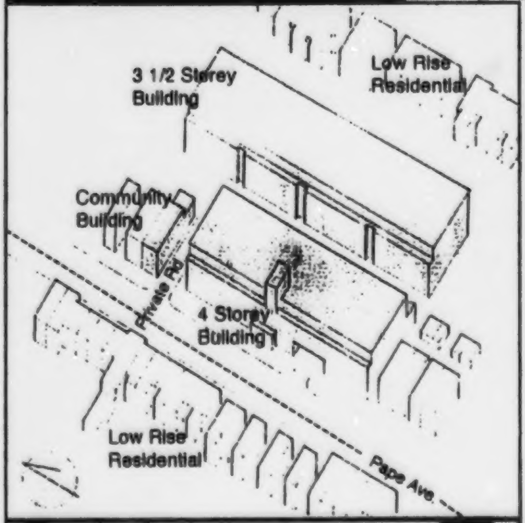
Location:	Residential street, close to major arterial with neighbourhood shopping.		0
Transit:	Short walk to E-W streetcar routes.		1
Construction:	New Construction.		-1
Land Use:	Intensification of residential (replaced 5 detached houses).		-1
Parking:	.19 spaces/unit. Parking was not an issue for this seniors' building.		0
Zoning:	*Site* *Neighbourhood*	Residential. Residential. Main street just to north zoned for mix of residential and commercial.	0
Building Height:	*Neighbourhood* *Permitted* *Project*	2-3 storeys (south) 20 storeys (immediately to north). 10m. 4 & 8 storeys (12 & 23 m).	-1
Footprint:	The footprint of the project is a significant departure from the area to the south, covering far more of the site than is usual in this neighbourhood.		-1
Density	*Zoning by-law* *Official Plan* *Project*	1.0x coverage. 2.0x coverage (High Density Residential). 2.38x coverage. Exceeds both by-law and Official Plan.	-1
	units/ha: 321 *bdrms/ha: 325*	Units and bedrooms/ha is not a major issue with seniors' housing.	0
Bulk	Building is in three parts, the largest in the middle of the block, partly masked by the church. The size of the building, however, was a concern to neighbours.		0
Streetscape:	The building is only 4 storeys at the street, approximating the height and rhythm of neighbouring 3 storey structures.		1
Project Community:	Seniors' buildings do not usually present a problem to neighbourhood groups.		1
Compatibility			-2

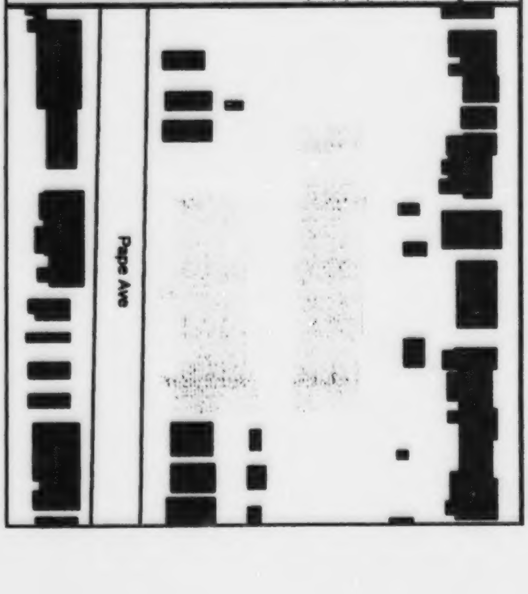
13

43 Pape Avenue



Van Nostrand Di Castri Architects 1996





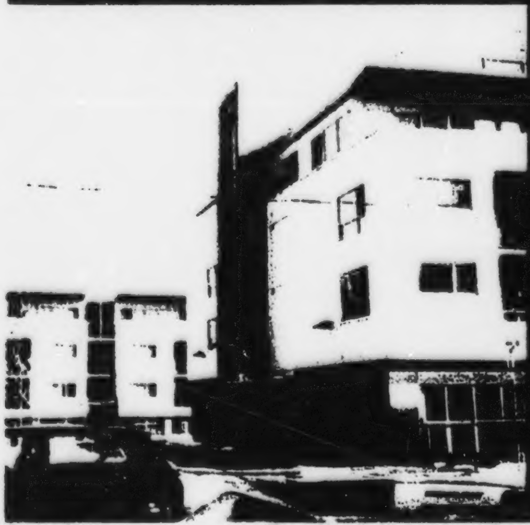
Context: The site is located 1/2 block south of an arterial and transit routes are within a 5 minute walk. The arterial accommodates a range of commercial and retail functions and a major supermarket is within walking distance. The immediate surroundings include low rise residential in 2-2 1/2 storey houses, as well as legal non-conforming industrial land uses. The site faces a wide residential street.

Project Description: The project provides 156 apartments in 2 buildings and incorporates a previously existing detached house as a neighbourhood community centre. The new building that fronts on the street is 4 storeys tall (reduced from the original proposal of 6), while the rear building is slightly shorter at 3 1/2 storeys (lowered from 4) to reduce its visual impact on the residents to the east. A private road provides access to the rear building. Attempts were made to match the existing scale of the neighbourhood by stepping back the top floors.

Intensification: Replaced 10 houses along the street and a legal non-conforming industrial use at the back of the site.

Zoning Variances: Density, height (minor), setbacks, building depth, parking and open space.

Unit Type	b	1	2	3	>3	total
Townhouse						
Stacked TH						
Walk-up Apt.						
Elev. Apt.	26	94	34	2		156
Total	26	94	34	2		156
Parking	**surf**	**ug**	**res**	**vis**	**total**	**/unit**
Spaces	2	80			82	.53
Site Stats	**a(m²)**	**gfa(m²)**	**d**	**u/ha**	**u/ac**	
	6 726	r12 395 t12 720	r1.84x t1.90x	232	94	



outside downtown
off main street
rental social housing for low to
moderate income households
on established residential street
rear building lowered into ground to reduce
visual impact of neighbours
includes community space
5 year development process

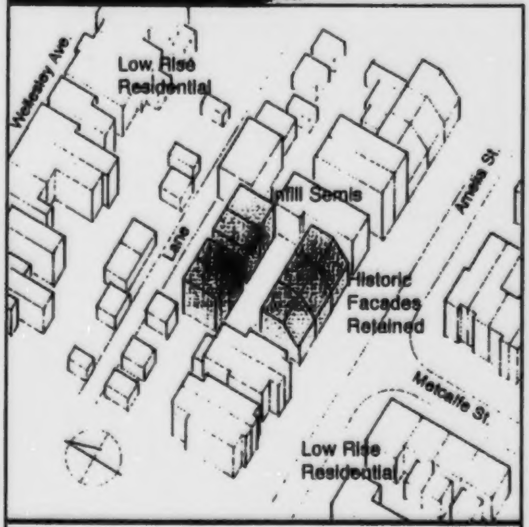
1.9x density

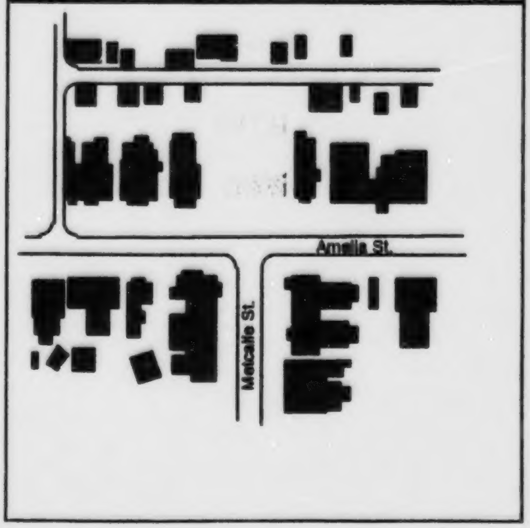
Location:	Residential street within walking distance of arterials.		0
Transit:	Streetcar and bus routes within one block to the north and south.		1
Construction:	New construction.		1
Land Use:	Intensification of residential and replacement of non-conforming industrial use.		0
Parking:	.53 spaces/unit. Parking was an issue at public meetings even though the number of spaces provided is fairly generous for social housing.		-1
Zoning:	*Site*	Residential (formerly legal non-conforming).	
	Neighbourhood	Residential.	1
Building Height:	*Neighbourhood*	2-2½ storeys.	
	Permitted	12m.	
	Project	3½ & 4 storeys (10.5m). Within zoning by-law, and not significantly taller than adjacent buildings.	0
Footprint:	The building's footprint is quite different from the rest of the residential sites on the block. However, the building at the rear of the site replaced an industrial building with a similar mid-block footprint.		0
Density	*Zoning by-law*	1.0x coverage.	
	Official Plan	2.0x coverage for formerly non-conforming sites.	
	Project	1.9x coverage - within OP but different from context.	0
	units/ha: 232 *bdrms/ha:* 291	Units/ha higher than surrounding neighbourhood.	-1
Bulk	Massing of large horizontal blocks next to semi-detached houses made bulk an issue during the planning process. Overlook from rear building was an issue.		-1
Streetscape:	The horizontal emphasis of the building presents a rhythm different from the rest of the street. Units do not open directly to the street.		-1
Project Community:	The neighbourhood community was concerned about the concentration of social housing in the area.		-1
Compatibility			-4

14

32-40 Amelia Street

h Hodgson Architects 1994





Context: This project is located within a low rise residential area, and less than 1/2 block from an arterial with well used neighbourhood commercial and retail uses and two transit routes. Most of the residential buildings in the area are 2-3 storey townhouses and semi-detached houses, some of which are subdivided. The overall density of the neighbourhood is quite high because of the narrow street right-of-ways, many of which are below current standards.

Project Description: This development renovated 3 existing historically listed cottages, adding second storeys facing away from the street while preserving the character of the street facades. Four new 2 storey semi-detached houses were built at the rear of the site with access from a common courtyard and walkway leading from the street. The developer's original intention was to demolish the cottages and construct 6 new townhouses facing the street. The realized project was the result of negotiations during the planning process that provided more units than the developer had proposed while preserving neighbourhood character.

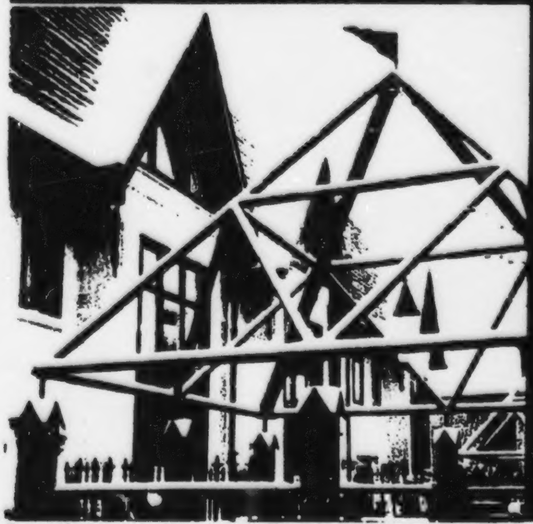
Intensification: Additional floor area to 3 houses, 4 new houses added to site.

Zoning Variances: Setbacks, building depth, building behind building, density (minor), parking, distance to neighbouring buildings.

Unit Type	b	1	2	3	>3	total
Semi				4		4
Townhouse			3			3
Total			3	4		7

Parking	surf	ug	res	vis	total	/unit
Spaces	8	0	8	0	8	1.14

Site Stats	a(m²)	gfa(m²)	d	u/ha	u/ac
	1 300	1 300	1.0x	54	22



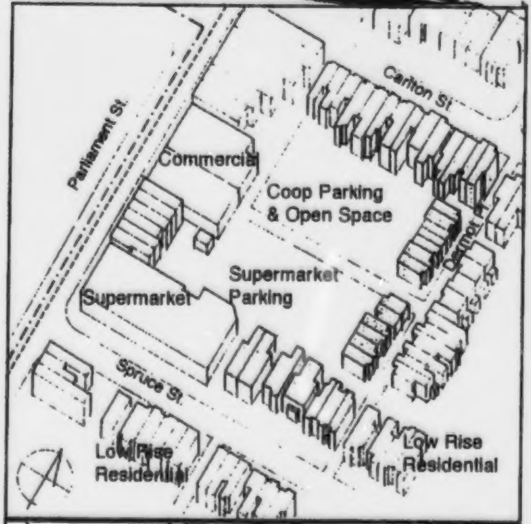
downtown
low density area
private freehold semis and townhouses
preserved historically listed facades
neighbourhood process resulted in
development of more units
4 year development process

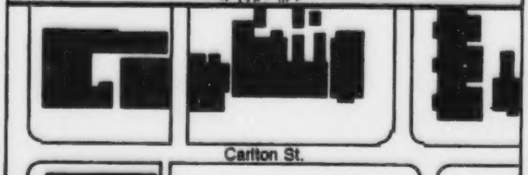
1.0x density

Location:	Residential street within easy walking distance of shopping and amenities.	1
Transit:	Within walking distance of bus and streetcar routes.	1
Construction:	Renovation and new construction.	0
Land Use:	Intensification of residential use.	1
Parking:	1.14 spaces/unit. On-street parking is an issue in this neighbourhood - provision of ample parking was important.	0
Zoning:	*Site* Residential. *Neighbourhood* Residential.	1
Building Height:	*Neighbourhood* 2-3 storeys. *Permitted* 12m. *Project* 1 1/2 & 2 storeys (9.3m).	1
Footprint:	The footprint does not cover more of the site than other houses in the area (the other houses on the street are particularly large). The major problem for zoning was that the site presented "building behind a building", an issue that always results in a public rezoning process.	0
Density	*Zoning by-law* 1.0x coverage. *Official Plan* 1.0x coverage with .25x extra for retaining historic structures. *Project* 1.0x coverage.	1
	units/ha: 54 *bdrms/ha: 138* Although more than doubling the number of units, the density /ha remains very low (compare with Case Studies 11 and 15)	1
Bulk	The apparent mass of the buildings remains the same from the street. The new building is behind and only visible from the lane and a couple of back yards.	1
Streetscape:	The streetscape remains substantially the same, although the condition of the old cottage facades was improved.	1
Project Community:	This is a private development aimed at people similar to those already living in the neighbourhood.	1
Compatibility:		9

15

255 Carlton Street


Parliament St.
Carlton St.
Commercial
Coop Parking
& Open Space
Supermarket
Parking
Supermarket
Dermott Pl.
Spruce St.
Low Rise
Residential
Low Rise
Residential


Carlton St.
Parliament St.
Dermott Pl.
Lane

Context: This project is located within a low rise residential area, and less than 1/2 block from a major arterial with well used neighbourhood commercial and retail uses and 2 transit routes. Most of the residential buildings in the area are 2-3 storey semi-detached or rowhouses, some of which are subdivided. Overall, however, the density of the neighbourhood is quite high because of the narrow street right-of-ways, many of which are below current standards.

Project Description: This is a 75 unit non-profit co-op accommodated within pre-existing houses and 8 new townhouses on assembled land facing 3 streets. Most of the houses are on a contiguous property, however, several other are scattered around the block. The co-op originally applied to build more new units, and, within the limitations of the Official Plan, would have been permitted to build up to 1.0x density on the site. Only 8 were built bringing the total density to .72x, however, to placate neighbourhood opposition. The remaining open space is used for parking and landscaped open space for the residents.

Intensification: Some of the pre-existing houses have been divided into apartments and 8 new townhouse were built.

Zoning Variances: Setbacks, parking.

Note: Figures below for contiguous site only.

Unit Type	b	1	2	3	>3	total
Townhouse						
Stacked TH						
Walk-up Apt.						
Total						46
Parking	**surf**	**ug**	**res**	**vis**	**total**	**/unit**
Spaces	35	0	31	4	35	.76
Site Stats	**a(m^2)**	**gfa(m^2)**	**d**	**u/ha**	**u/ac**	
	4 403	3 190	.72x	104	42	

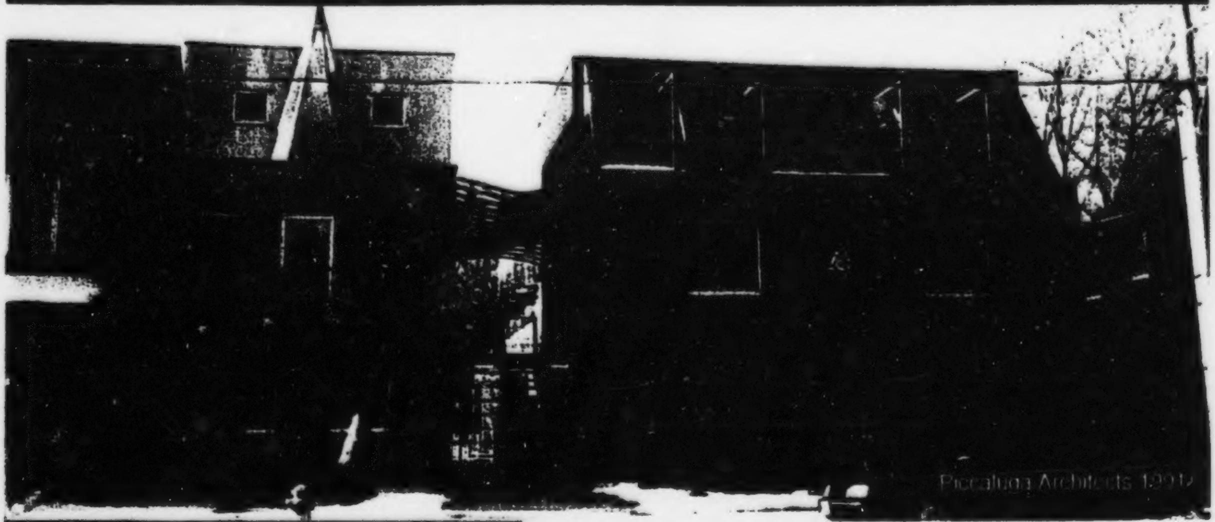
low density area
downtown
non-profit coop housing
renovated town and semi-detached houses
8 new townhouses
scattered units
low rise neighbourhood with
narrow streets and lanes
not built to full-density to
placate neighbours

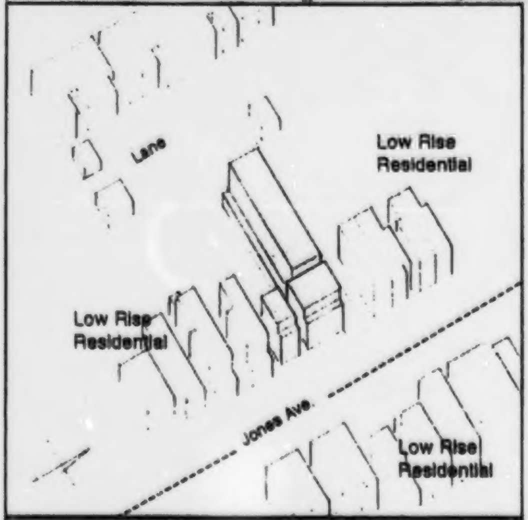
0.72x density

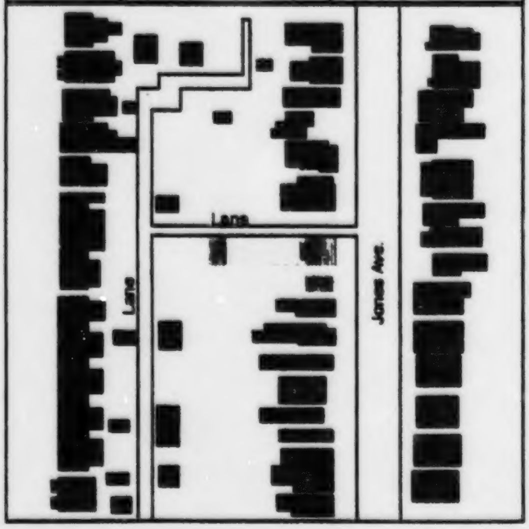
Location:	Residential street, close to neighbourhood shopping and CBD.		1
Transit:	2 minute walk to street car and bus routes.		1
Construction:	Renovations with 8 new houses.		1
Land Use:	Intensification of residential.		0
Parking:	.76 spaces/ unit. this is a very high ratio for non-profit housing, but on street parking is a major issue in this neighbourhood.		0
Zoning:	*Site* *Neighbourhood*	Residential. Residential.	1
Building Height:	*Neighbourhood* *Permitted* *Project*	2-3 storeys. 12m. 2-3 storeys (approx. 6-9m). Within the by-law.	1
Footprint:	Because the project uses mostly existing buildings there is little change to the footprint. The new buildings provided on Dermot Place are located in positions that were probably the sites of houses in the past.		1
Density	*Zoning by-law* *Official Plan* *Project*	1.0x coverage. 1.0x coverage Low Density Residential. .72x coverage.	1
	units/ha: 104 *bdrms/ha: 184*	Increased density of units/ ha is accomplished by subdividing the existing rather than building new.	1
Bulk	Most units within pre-existing buildings typical of the area.		1
Streetscape:	Most units within pre-existing buildings typical of the area.		0
Project Community:	Some reservations from neighbours about the location of non-profit housing within the area.		0
Compatibility			9

16

86 Jones Avenue


Piccaluga Architects 1992





Context: The project is located mid-block on a wide residential street served by a bus route. The housing stock is low rise comprised of 2-2½ storey detached and semi-detached houses (there are a few other infill projects in the area). On the west side of the street, where this project is sited, the lots are deep, providing good opportunities for intensification.

Project Description: This project provides 14 apartments in three blocks. Two buildings front on the street mimicking the the scale of the neighbourhood buildings. One contains 2 apartments, the other common facilities. A third runs almost the full depth of the site on the northern perimeter and contains 12 units that are entered from a common courtyard. The original proposal called for a development of 22 units and a density of 1.2x. However, the developer reduced the density to 1.0x to conform with the Official Plan for the area. Although conforming with the OP, the density is atypical for the area because of the unusually deep lots--typical houses on the block have densities of less than .5x.

Intensification: Replaced 2 houses.

Zoning Variances: Density, setbacks, building depth, parking and open space.

Unit Type	b	1	2	3	>3	total
Townhouse						
Stacked TH						
Walk-up Apt.	1	11	5			17
Elev. Apt.						
Total						

Parking	surf	ug	res	vis	total	/unit
Spaces	10	0	10	0	10	.59

Site Stats	a(m²)	gfa(m²)	d	u/ha	u/ec	
	994	1 000	1.0x	171	70	

low density area
outside downtown
rental social housing for First Nations people
deep lots ideal for intensification
zoning permits 0.6x coverage but
most sites developed to less than 0.5x
4 year development period

1.0x density

Location:		Residential street, neighbourhood shopping within waking distance.	1
Transit:		Bus route on street.	0
Construction:		New construction.	1
Land Use:		Intensification of residential.	1
Parking:		.59 spaces/ unit. Parking was an issue during the rezoning process.	1
Zoning:	*Site* *Neighbourhood*	Residential. Residential.	1
Building Height:	*Neighbourhood* *Permitted* *Project*	2- 2 1/2 storeys . 12m. 2 1/2 storeys (9.5m). Within by-law and matching surroundings.	1
Footprint:		The footprint of the building is substantially deeper than those on neighbouring sites. This presented overlook concerns to residents of adjoining properties.	1
Density	*Zoning by-law* *Official Plan* *Project*	0.6x coverage. 1.0x coverage Low Density Residential. 1.0x coverage. Within OP but different from context.	0
	units/ha:171 *bdrms/ha:221*	Significantly higher than typical sites in the neighbourhood (although there are some other infill projects of similar density).	1
Bulk		The depth of the building presented the biggest challenge during the planning process. The bulk a factor when viewed from the lanes and back yards.	1
Streetscape:		The massing and the scale of the building from the street match the neighbourhood rhythms.	1
Project Community:		The proposed tenant group for the site was a concern for some neighbours at the public meetings.	1
Compatibility			-3

Appendix B

Matrix Analysis

Compatibility Matrix

This "compatibility matrix" summaries the characteristics of the projects in the Case Studies and allows for comparisons. The matrix helps identify specific issues that may arise as proposals for increasing residential density move through the municipal approvals process.

The examples in the matrix are numbered to match the case studies shown in Appendix A. Under each project there are two columns. The first notes how the project compares with its surroundings with regard to key variables; the second designates its compatibility. A compatibility of "1" indicates that the approach taken in the design of the project is an asset to the rezoning (or other municipal approvals) process; "0" indicates that the variable is neutral; "-1" indicates that it is a liability. These numbers are summed up at the bottom of the matrix, giving some indication of the project's relative compatibility. For the purposes of this matrix the values assigned to the variables were determined by reviewing the minutes of public meetings held to discuss the various proposals.

This matrix has been discussed and tested with a range of participants within both the private and non-profit housing sectors. Included in this consultation were: a developer familiar with problems of both private and non-profit housing; a non-profit housing provider experienced in developing low-income and supportive housing; and a lawyer who specializes in work with the Ontario Municipal Board. All of those consulted felt that the matrix could act as a valuable tool in the negotiation of increased densities within existing neighbourhoods. The developer pointed out that the design of several projects (#2, 3, and 10) all included workgroups of neighbourhood residents and that all of the variables listed would have been addressed in that forum.

Despite the value of this list, those who reviewed the matrix pointed out that there are variables that cannot be predicted. Most notably these included unexpected political support or opposition that runs counter to the desires of neighbourhood residents (Case Study #12, for example, received opposition from neighbours and planning departments, but was approved by the politicians). There also may be unreasonable demands from members of the Ontario Municipal Board which increase the cost of opposing a project beyond the budget of most local groups or non-profits.

Finally, this matrix does not address design specifically but has stressed "planning issues" – (aesthetic issues are not generally legislated). However, it must be recognized that the appearance of the buildings will influence the degree of resistance that any proposal will receive.

Variables:

The following are brief explanations of each of the variables listed on the "Compatibility Matrix".

a. Location Many of these projects were located on or near major *arterials*. Typically, location on a major arterial was an asset. Gaining acceptance for proposals in these locations was generally easier since there was usually higher existing densities than on the adjoining residential streets. In many cases the Official Plan already recognized the areas as appropriate sites for future high density residential development—although the projects still required rezoning, there was already an institutional preference for the proposed density

There was far more community opposition to intensification projects on residential streets, and in these cases location was most often a liability. Some of the case studies presented mixed situations, e.g., buildings that faced both arterial roads and residential streets. In these examples, it was assumed that the liabilities and assets cancelled one another.

b. Transit	All of the case study projects are located within walking distance of transit routes. Transit accessibility was regarded as an asset in all cases except those that are situated on minor routes or that have slightly longer walking distances.
c. Construction	New construction was typically judged to be a liability, because it attracted attention to the change/intensifiaction of the site. Also, in the case of projects that required public planning processes, new buildings were less likely to appear compatible to local residents when aesthetic issues were discussed. Renovated buildings were more likely to gain acceptance since they worked within existing built form. Renovation, therefore, was usually an asset. In some cases, where there was both renovation and new building, the "value" was assumed to be neutral.
d. Land Use	Change of land use from a non-conforming industrial or commercial use was assumed to be a positive improvement to the neighbourhood. Intensification of existing residential land uses, noted on the matrix simply as "intensification," was usually regarded as a negative (from the perspective of neighbours).
e. Parking	The number of underground and surface parking spaces provided.
f. Zoning	The zoning of the site and the typical zoning of the surrounding neighbourhood.
g. Height	Typical building heights in the neighbourhood, heights permitted by the zoning by-law, and the actual (or proposed) heights of the case study project.
h. Footprint	Typical building footprint at grade in the neighbourhood, lot coverage as permitted by the zoning by-laws, and the actual coverage of the case study project.

i. Density (FAR)	Typical floor area ratios (ratio of floor area to site area) for the neighbourhood, FAR as permitted by the Official Plan and zoning by-laws, and the actual FAR of the case study project.
j. Density (units/ha)	Typical units/ha density for the neighbourhood, number of units permitted by the zoning by-laws, and the units/ha of the case study project. Note that units/ha calculations are limited to the lot boundaries and therefore do not take into account public right-of-ways.
k. Density (bdrm/ha)	Typical number of bedrooms/ha for the neighbourhood and the actual number of bedrooms/ha of the case study project.

Note: a comparison of the different measures of density provides further insights into the nature of proposed projects. For example, the number of units compared with the floor area provides an indication of typical unit areas and an idea of the population targeted by developers. Similarly, the number of bedrooms compared with the number of units may indicate the household types that will inhabit a building.

l. Bulk	Bulk is a subjective measure that "goes beyond height to consider the building massing and how it relates to existing buildings." One of the questions raised is whether the proposed height and massing overwhelm or dominate the existing community, or whether the proposed development blends in?"[1]
m. Streetscape	Debono and Ginou ask whether proposals "respect the type of streetscapes which are evident in the surrounding neighbourhoods". By "respecting" the surroundings, they are not necessarily suggesting that proposals mimic their neighbours. Although the design of buildings (style and details) may have some bearing on community acceptance of the proposal, this category is more concerned with the rhythm and scale of the project and its relationship to the street.
n. Project Community	The target population for any proposal is an important issue in gaining approval of the surrounding community. Seniors' projects, for example, usually gain acceptance, whereas housing for low-income singles and supportive housing is more likely to meet opposition. This issue is generally stated in terms of compatibility with the existing community.

Note: In this category, NP refers to a non-profit developer or sponsor of the project.

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[1] Joseph Debono and Paul Ginou (1993). "Current Social Housing Issues Before the Ontario Municipal Board," in Current Issues for Social Housing Developments in Ontario. Toronto: Fraser Beatty Barristers and Solicitors.